040 00 00 00 HUMAN PERFORMANCE AND LIMITATIONS

1. 3,512 040 01 01 01 Competence and limitations

Concerning the relation between performance and stress, which of the following statement(s) is (are) correct?

- [x] A moderate level of stress may improve performance.
- [ ] A student will learn faster and better under severe stress.
- [ ] Domestic stress will not affect the pilot's performance because he is able to leave this type of stress on the ground.
- [ ] A well trained pilot is able to eleminate any kind of stress completely when he is scheduled to fly.

2. 3,513 040 01 01 01 Competence and limitations

Stress is a frequent aspect of the pilot's job. Under which of the following circumstances does it occur?
1. Stress occurs whenever the pilot must revise his plan of action and does not immediately have a solution
2. Stress occurs with unexperienced pilots when the situational demands exceed their individual capabilities
3. Stress occurs if a pilot is convinced that he will not be able to find a solution for the problem he just is confronted with

- [x] 1, 2 and 3 are correct
- [ ] Only 1 is false
- [ ] 1 and 2 are correct, 3 is false
- [ ] 1 is correct, 2 and 3 are false

3. 3,514 040 01 01 01 Competence and limitations

Divided attention is the ability :
1. to execute several mental activities at almost the same time (i.e. when switching attention from outside the aircraft to the airspeed indicator on the instrument panel)
2. to monitor the progress of a motor programme (i.e. flying or taxiing the airplane) on a relatively subconscious level, while making a radio call at the same time (requiring a rather conscious level)
3 .to select information and check if it is relevant to the task in hand. At the same time no other operation can be performed.
4. to delegate tasks to the copilot while concentrating on the procedures

- [x] 1 and 2 are correct, 3 and 4 are false
- [ ] 1,2 and 3 are correct, 4 is false
- [ ] 1 and 3 are correct, 2 and 4 are false
- [ ] Only 3 is false

040 00 00 00 HUMAN PERFORMANCE AND LIMITATIONS

4. 3,515 040 01 01 01 Competence and limitations

The physiology of stress is now well known:

- [x] stress promotes an increase in physical strength rather than promoting mental oerformance
- [ ] the only stress hormone is adrenaline
- [ ] stress develops in 2 stages: sublimation of performance and then acceleration of heart rate and increase in vision
- [ ] stress slows down the production of sugar by the organism and thereby slows down the heart rate

5. 3,516 040 01 01 01 Competence and limitations

An overstressed pilot may show the following symptoms:
1. mental blocks, confusion and channelized attention
2. resignation, frustration, rage
3. deterioration in motor coordination
4. high pitch voice and fast speaking

- [x] 1, 2, 3 and 4 are correct
- [ ] 1, 2 and 3 are correct, 4 is false
- [ ] 1 and 2 are correct, 3 and 4 are false
- [ ] 1and 3 are correct, 2 and 4 are false

6. 3,462 040 01 01 02 Becoming a competent pilot

In the initial phase of flight training the relationship between confidence and expertise can be described as:

- [x] the pilot is competent enough to fly the aircraft at this stage, but does neither have a great deal of confidence in his/her abilities nor in the whole system
- [ ] the pilot is sufficiently competent to fly and knows at this stage what he can and cannot do
- [ ] during this learning stage, the pilot is very near to achieving full potential knowledge of the machine
- [ ] the pilot has a sphere of expertise wich is reduced to daily use of his skills

7. 6,859 040 01 01 02 Becoming a competent pilot

A pilot is skilled when he :
-1 : trains or practises regularly
-2 : knows how to manage himself/herself
-3 : possesses all the knowledge associated with his aircraft
-4 : knows how to keep resources in reserve for coping with the unexpected

- [x] 1,2,4
- [ ] 1,2,3,4
- [ ] 1,2
- [ ] 2, 3,4

8. 3,407 040 01 02 00 Accident statistics

The rate of accidents in commercial aviation (excluding sabotage and acts of terrorism) :

- [x] is approximatively 1 accident per million airport movements
- [ ] has improved considerably over the last fifteen years
- [ ] is a long way short of the safety level of road transport
- [ ] represents about fifty accidents around the world every year

9. 3,409 040 01 02 00 Accident statistics

As a cause of accidents, the human factor

- [x] is cited in approximately 70 - 80 % of aviation accidents
- [ ] has increased considerably since 1980 - the percentage of accident in which this factor has been involved has more than tripled since this date
- [ ] which is cited in current statistics, applies to the flight crew and ATC only
- [ ] plays a negligible role in commercial aviation accidents. It is much more important in general aviation

10. 4,138 040 01 02 00 Accident statistics

What airplane equipment marked a subtantial decrease in hull loss rates in the eighties?

- [x] GPWS
- [ ] DME
- [ ] SSR
- [ ] TCAS

11. 6,890 040 01 02 00 Accident statistics

In civil air transport, linear accelerations (Gx):
- 1 : do not exist
- 2 : have slight physiological consequences
- 3 : may, in the case of pull-out, lead to loss of consciousness
- 4 : cause sensory illusions on the pitch axis

- [x] 2,4
- [ ] 1
- [ ] 3,4
- [ ] 3

12. 3,412 040 01 03 00 Flight safety concepts

Thinking on human reliability is changing.

- [x] Human errors are now considered as being inherent to the cognitive function of human and are generally inescapable
- [ ] Human errors can be avoided. All it takes is to be vigilant and to extend one's knowledge
- [ ] The individual view of safety has gradually replaced the systemic view of safety
- [ ] It is thought that it will be possible to eliminate errors in the near future

13. 4,144 040 01 03 00 Flight safety concepts

Between which components is an interface mismatch causing an error of interpretation by using an old three-point altimeter?

- [x] Liveware - Hardware
- [ ] Liveware - Software
- [ ] Liveware - Environment
- [ ] Liveware - Liveware

14. 4,145 040 01 03 00 Flight safety concepts

Between which components is an interface mismatch responsible for deficiencies in conceptual aspects of warning systems?

- [x] Liveware - Software
- [ ] Liveware - Hardware
- [ ] Liveware - Environment
- [ ] Liveware - Liveware

15. 4,148 040 01 03 00 Flight safety concepts

Between which components is an interface mismatch causing disturbance of the biological rhythm, thus leading to reduced human peformance?

- [x] Liveware - Environment
- [ ] Liveware - Hardware
- [ ] Liveware - Software
- [ ] Liveware - Liveware

16. 4,149 040 01 03 00 Flight safety concepts

The errors resulting from an irrational indexing system in an operations manual are related to an interface mismatch between

- [x] Liveware - Software
- [ ] Liveware - Hardware
- [ ] Liveware - Environment
- [ ] Liveware - Liveware

17. 6,861 040 02 01 00 Basics of flight physiology

Man possesses a system for maintaining his internal equilibrium in the face of variations brought about by external stimulations.
This internal equilibrium is called :

- [x] Homeostasis
- [ ] Heterostasis
- [ ] Isothermy
- [ ] Metastasis

18. 58 040 02 01 01 The atmosphere

The atmospheric gas pressure

- [x] drops faster at lower altitudes in comparison to the same altitude changes at higher altitudes
- [ ] rises with altitude
- [ ] decreases linear with altitude
- [ ] decreases slower at lower altitudes compared with higher levels and equivalent altitude changes

19. 59 040 02 01 01 The atmosphere

A certain amount of water vapor saturated air (i.e. intestinal gases) is transported from sea-level up to 34 000 ft. In the same amount of dry air, the volume of this gas is :

- [x] larger
- [ ] smaller
- [ ] constant
- [ ] first larger, then smaller

20. 62 040 02 01 01 The atmosphere

You can survive at any altitude, provided that

- [x] enough oxygen, pressure and heat is available
- [ ] 21% oxygen is available in the air you breath in
- [ ] pressure respiration is guaranteed for that altitude
- [ ] "the temperature in the cabin does not drop below 10" C"

21. 65 040 02 01 01 The atmosphere

Fatigue and permanent concentration

- [x] lower the tolerance to hypoxia
- [ ] increase the tolerance to hypoxia
- [ ] do not affect hypoxia at all
- [ ] will increase the tolerance to hypoxia when flying below 15 000 feet

22. 66 040 02 01 01 The atmosphere

The atmosphere contains the following gases:

- [x] 78% nitrogen, 21% oxygen, 0,03% carbon dioxide, rest: rare gases
- [ ] 78% nitrogen, 21% oxygen, 1% carbon monoxide, rest: rare gases
- [ ] 78% helium, 21% oxygen, 1% carbon monoxide, rest: rare gases
- [ ] 78% helium, 21% oxygen, 0,03% carbon dioxide, rest: rare gases

23. 67 040 02 01 01 The atmosphere

The earth's atmosphere consists of different gases in various concentration. Match the following:

1 nitrogen A 0,03%
2 oxygen B 0,92%
3 carbon dioxide C 20.95%
4 rare gas D 78,10%

- [x] 1D, 2C, 3A, 4B
- [ ] 1B, 2A, 3D, 4C
- [ ] 1C, 2B, 3A, 4D
- [ ] 1D, 2C, 3B, 4A

24. 68 040 02 01 01 The atmosphere

Gases of physiological importance to man are:

- [x] oxygen and carbon dioxide
- [ ] nitrogen and carbon dioxide
- [ ] oxygen and carbon monoxide
- [ ] oxygen, nitrogen and water vapor

25. 69 040 02 01 01 The atmosphere

The volume percentage of oxygen in the atmosphere is 21% which

- [x] is constant for all altitudes conventional airplanes can reach
- [ ] decreases with increasing altitude
- [ ] increases with increasing altitude
- [ ] is dependent on the present air pressure

26. 70 040 02 01 01 The atmosphere

The following applies for the physical properties of gases:

- [x] at sea-level a gas has 1/3 of the volume it would have at 27000 ft
- [ ] at an altitude of 18 000 ft a gas volume is three times as large as it would be at sea-level
- [ ] a water vapor saturated gas at 34 000 ft has 6 times its volume as it would have at sea-level
- [ ] at an altitute of 63 000 ft water will boil at temperature of 65°C

27. 71 040 02 01 01 The atmosphere

The percentage of oxygen in the air at an altitude of approximately 34 000 ft is :

- [x] 21%
- [ ] 5%
- [ ] 10,5%
- [ ] 42%

28. 81 040 02 01 01 The atmosphere

An increase in the amount of carbon dioxide in the blood leads to:

- [x] shortness of breath
- [ ] a decrease of acidity in the blood
- [ ] a reduction of red blood cells
- [ ] an improving resistance to hypoxia

29. 2,649 040 02 01 01 The atmosphere

The chemical composition of the earth´s atmosphere (I C A O standard atmosphere) is

- [x] 78 % nitrogen, 21 % oxygen, 0,9 % argon, 0,03 % carbon dioxide
- [ ] 78 % nitrogen, 21 % oxygen, 0,9 % carbon dioxide, 0,03 % argon
- [ ] 78 % nitrogen, 28 % oxygen, 0,9 % carbon dioxide, 0,03 % argon
- [ ] 71 % nitrogen, 28 % oxygen, 0,9 % argon, 0,03 % carbon dioxide

30. 2,650 040 02 01 01 The atmosphere

According to the I.C.A.O. standard atmosphere, the temperature lapse rate of the troposphere is approximately

- [x] - 2 °C every 1000 feet
- [ ] 10 °C every 100 feet
- [ ] 2 °C every 1000 metres
- [ ] constant in the troposphere

31. 2,653 040 02 01 01 The atmosphere

The barometric pressure has dropped to 1/2 of the pressure at sea level at

- [x] 18 000 feet
- [ ] 10 000 feet
- [ ] 25 000 feet
- [ ] 30 000 feet

32. 3,541 040 02 01 01 The atmosphere

The total pressure of a mixture of gases is equal to the sum of the partial pressures of the gases which compose the mixture corresponds to:

- [x] Dalton´s law
- [ ] Graham´s law
- [ ] Henry`s law
- [ ] Boyle Mariotte´s law

33. 6,968 040 02 01 01 The atmosphere

The atmospheric pressure at 18,000 feet altitude is half the atmospheric pressure at sea level.
In accordance with this statement,

- [x] the partial oxygen pressure at that altitude will also drop to 1/2 of the pressure of oxygen at sea level
- [ ] the oxygen saturation of the blood at that altitude will drop by 50 % too
- [ ] the oxygen percentage of the air at that altitude will drop by one half also
- [ ] the partial oxygen pressure at that altitude will be doubled

34. 6,971 040 02 01 01 The atmosphere

The volume percentage of oxygen in the atmosphere at 30.000 feet remains at 21 %; but the partial pressure of oxygen :

- [x] decreases with decreasing barometric pressure
- [ ] remains constant, independent from altitude
- [ ] increases by expansion
- [ ] decreases significantly with lower temperatures

35. 6,974 040 02 01 01 The atmosphere

Which data compose the ICAO standard atmosphere ?
1. Density
2. Pressure
3. Temperature
4. Humidity

- [x] 1,2 ,3
- [ ] 1, 2 ,4
- [ ] 2,3 ,4
- [ ] 3 , 4

36. 6,975 040 02 01 01 The atmosphere

Boyle's law is directly applicable in case of:

- [x] the expansion of trapped gasses in the human body with increasing altitude
- [ ] the occurance of decompression sickness at high altitude
- [ ] the occurance of hypoxia with increasing altitude
- [ ] hyperventilation with increasing altitude

37. 6,977 040 02 01 01 The atmosphere

Dalton's law explains the occurance of :

- [x] altitude hypoxia
- [ ] bends
- [ ] decompression sickness
- [ ] creeps

38. 6,978 040 02 01 01 The atmosphere

Henry's Law explains the occurence of:

- [x] decompression sickness
- [ ] diffusion
- [ ] hyperventilation
- [ ] hypoxia

39. 7,009 040 02 01 01 The atmosphere

Oxygen, combined with hemoglobin in blood is transported by

- [x] red blood cells
- [ ] platelets
- [ ] blood plasma
- [ ] white blood cells

40. 60 040 02 01 02 Respiratory and circulatory systems

Breathing 100% oxygen at 38000 ft is equivalent to breathe ambient air at :

- [x] 10 000 ft
- [ ] 8 000 ft
- [ ] 14 000 ft
- [ ] 18 000 ft

41. 61 040 02 01 02 Respiratory and circulatory systems

At what altitude (breathing 100% oxygen without pressure) could symptoms of hypoxia be expected?

- [x] Approximately 38 - 40 000 ft.
- [ ] Approximately 10 - 12 000 ft.
- [ ] 22 000 ft
- [ ] Approximately 35 000 ft.

42. 63 040 02 01 02 Respiratory and circulatory systems

To safely supply the crew with oxygen, at which altitude is it necessary to breathe 100% oxygen plus pressure after a rapid decompression ?

- [x] Approximately 38 000 ft.
- [ ] Approximately 14 000 ft.
- [ ] Approximately 20 000 ft.
- [ ] Approximately 45 000 ft.

43. 64 040 02 01 02 Respiratory and circulatory systems

When the pilot suffers from hypothermia (loss of cabin heating):

- [x] his need for oxygen will be increased as long as he stays conscious
- [ ] his oxygen need will not be affected
- [ ] his oxygen need will be reduced giving him a better tolerance to hypoxia at higher altitudes
- [ ] his oxygen need will be raised and his tolerance to hypoxia will be increased

44. 72 040 02 01 02 Respiratory and circulatory systems

The respiratory process consists mainly of

- [x] the diffusion of oxygen through the respiratory membranes into the blood, transportation to the cells, diffusion into the cells and elimination of carbon dioxide from the body
- [ ] the transportation of oxygen to the cell and the elimination of carbon monoxide
- [ ] the transportation of oxygen to the cell and the elimination of nitrogen
- [ ] the transportation of carbon dioxide to the cell and elimination of oxygen

45. 73 040 02 01 02 Respiratory and circulatory systems

Inhaling carbon monoxide can be extremely dangerous during flying.
Which of the following statement(s) is/are correct?

- [x] Carbon monoxide is odourless and cannot be smelled.
- [ ] Carbon monoxide increases the oxygen saturation in the blood.
- [ ] With increasing altitude the negative effects of carbon monoxide poisoning will be compensated.
- [ ] Small amounts of carbon monoxide are harmless.

46. 74 040 02 01 02 Respiratory and circulatory systems

Carbon monoxide poisoning

- [x] is more likely to occur in aeroplanes where the cabin heat is technically supplied by coating the exhaust
- [ ] is more likely to occur in aeroplanes with twin-engines because of high engine efficiency
- [ ] only occurs in jet-driven aeroplanes
- [ ] occurs only above 15 degrees OAT

47. 75 040 02 01 02 Respiratory and circulatory systems

In the following list you will find several symptoms listed for hypoxia and carbon monoxide poisoning.
Please mark those referring to carbon monoxide poisoning.

- [x] Headache, increasing nausea, dizziness.
- [ ] High levels of arousal, increased error proneness, lack of accuracy.
- [ ] Euphoria, accomodation problems, blurred vision.
- [ ] Muscular spasms, mental confusion, impairment of hearing.

48. 76 040 02 01 02 Respiratory and circulatory systems

Which of the following applies to carbon monoxide poisoning?

- [x] Several days are needed to recuperate from a carbon monoxide poisoning.
- [ ] A very early symptom for realising carbon monoxide poisoning is euphoria.
- [ ] The human body shows no sign of carbon monoxide poisoning.
- [ ] Inhaling carbon monoxide leads to hyperventilation.

49. 77 040 02 01 02 Respiratory and circulatory systems

The momentum of gas exchange in respiration is

- [x] dependent on the pressure gradient between the participating gases during respiration
- [ ] the excess pressure caused by inhaling
- [ ] independent from the partial pressures of the participating gases
- [ ] depending on the active transportation of nitrogen into the alveoli

50. 78 040 02 01 02 Respiratory and circulatory systems

Which component(s) is/are transporting the oxygen in the blood?

- [x] Hemoglobin in the red blood cells.
- [ ] White blood cells.
- [ ] Plasma.
- [ ] Blood fat.

51. 79 040 02 01 02 Respiratory and circulatory systems

Affinity to hemoglobin is best with:

- [x] carbon monoxide
- [ ] nitrogen
- [ ] oxygen
- [ ] carbon dioxide

52. 80 040 02 01 02 Respiratory and circulatory systems

Which of the following is true concerning carbon monoxide?

- [x] "It is to be found in the smoke of cigarettes lifting up a smoker's " physiological altitude" ."
- [ ] It combines 5 times faster to the hemoglobin than oxygen.
- [ ] It has no physiological effect when mixed with oxygen.
- [ ] It is always present in the lungs.

53. 82 040 02 01 02 Respiratory and circulatory systems

The rate and depth of breathing is primarily controlled by:

- [x] the amount of carbon dioxide in the blood
- [ ] the amount of carbon monoxide in the blood
- [ ] the amount of nitrogen in the blood
- [ ] the total atmospheric pressure

54. 83 040 02 01 02 Respiratory and circulatory systems

In the alveoli gas exchange takes place (external respiration). Which gas will diffuse from the blood into the lungs?

- [x] Carbon dioxide.
- [ ] Ambient air.
- [ ] Oxygen.
- [ ] Carbon monoxide.

55. 84 040 02 01 02 Respiratory and circulatory systems

Which statement is correct ?

- [x] Oxygen diffusion from the blood into the cells depends on their partial oxygen pressure gradient.
- [ ] The blood plasma is transporting the oxygen.
- [ ] The gradient of diffusion is higher at altitude than it is at sea-level.
- [ ] Oxygen diffusion from the lungs into the blood does not depend on partial oxygen pressure.

56. 86 040 02 01 02 Respiratory and circulatory systems

"Tunnel vision" (loss of peripherical vision) can be observed if a pilot is subjected to more than:

- [x] + 3.5 Gz
- [ ] - 3.5 Gz
- [ ] + 3.5 Gx
- [ ] - 3.5 Gy

57. 87 040 02 01 02 Respiratory and circulatory systems

"Grey out" can be observed if a pilot is subjected to more than:

- [x] + 3 Gz
- [ ] - 3 Gz
- [ ] + 3 Gx
- [ ] + 3 Gy

58. 88 040 02 01 02 Respiratory and circulatory systems

The negative (radial) acceleration of an airplane affects the sitting pilot with inertia along :

- [x] the vertical body axis upwards
- [ ] the vertical body axis downwards
- [ ] the transverse body axis to the right
- [ ] the transverse body axis to the left

59. 89 040 02 01 02 Respiratory and circulatory systems

How can a pilot increase his tolerance to +Gz ?

- [x] Tightening of muscles, ducking the head and perform a kind of pressure breathing.
- [ ] Tighten shoulder harness.
- [ ] Take an upright seat position.
- [ ] Relax the muscles, ducking the head and lean upper body forward.

60. 90 040 02 01 02 Respiratory and circulatory systems

Oxygen in the blood is primarily transported by

- [x] the hemoglobin in the red blood cells
- [ ] the blood plasma
- [ ] attaching itself to the hemoglobin in the red blood plasma
- [ ] attaching itself to the hemoglobin in the white blood cells

61. 91 040 02 01 02 Respiratory and circulatory systems

Large amounts of carbon dioxide are eliminated from the body when hyperventilating. This causes the blood

- [x] to become more alkaline increasing the amount of oxygen to be attached to the hemoglobin at lung area
- [ ] to turn more acid thus eliminating more oxygen from the hemoglobin
- [ ] to accelerate the oxygen supply to the brain
- [ ] not to change at all

62. 92 040 02 01 02 Respiratory and circulatory systems

Hypoxia is caused by

- [x] reduced partial oxygen pressure in the lung
- [ ] reduced partial pressure of nitrogen in the lung
- [ ] an increased number of red blood cells
- [ ] a higher affinity of the red blood cells (hemoglobin) to oxygen

63. 93 040 02 01 02 Respiratory and circulatory systems

Hypoxia can be caused by:
1. low partial pressure of oxygen in the atmosphere when flying at high altitudes without pressurisation and supplemental oxygen
2. a decreased saturation of oxygen in the blood due to carbon monoxide attached to the hemoglobin
3. blood pooling in the lower extremities due to inertia (+ Gz)
4. malfunction of the body cells to metabolize oxygen (i.e. after a hangover)

☒ 1, 2, 3 and 4 are correct

☐ 1 and 2 are correct, 3 and 4 are false

☐ 1 is false, 2, 3 and 4 are correct

☐ 1, 2, 3 are correct, 4 is false

64. 94 040 02 01 02 Respiratory and circulatory systems

A pilot will get hypoxia

☒ after decompression at high altitude and not taking additional oxygen in time

☐ after decompression to 30 000 feet and taking 100 % oxygen via an oxygen mask

☐ if his rate of climb exceeds 5 000 ft/min

☐ if he is flying an unpressurized airplane at an altitude of 15 000 feet and breathing 100 % oxygen

65. 95 040 02 01 02 Respiratory and circulatory systems

Why is hypoxia especially dangerous for pilots flying solo?

☒ Since the first signs of hypoxia are generally hard to detect (hypoxia of the brain), the solo pilot may not be able to react in time (i.e. activate his emergency oxygen system)

☐ Hypoxia does not cause a loss of control in steering the plane.

☐ Hypoxia improves vision at night, so the pilot will have no indication of danger.

☐ The pilot may loose control when he is using the oxygen mask.

66. 96 040 02 01 02 Respiratory and circulatory systems

In the following list you find some symptoms for hypoxia and carbon monoxide poisoning.
Please mark those indicating hypoxia:

☒ Visual disturbances, lack of concentration, euphoria.

☐ Nausea and barotitis.

☐ Dull headache and bends.

☐ Dizziness, hypothermia.

67. 97 040 02 01 02 Respiratory and circulatory systems

Which of the following is a/are symptom(s) of hypoxia ?

- [x] Lack of concentration, fatigue, euphoria
- [ ] Pain in the joints
- [ ] Low blood pressure
- [ ] Excessive rate and depth of breathing combined with pains in the chest area

68. 98 040 02 01 02 Respiratory and circulatory systems

A symptom comparison for hypoxia and hyperventilation is:

- [x] cyanosis (blue color of finger-nail and lips) exists only in hypoxia
- [ ] there are great differences between the two
- [ ] altitude hypoxia is very unlikely at cabin pressure altitudes above 10 000 ft
- [ ] symptoms caused by hyperventilation will immediately vanish when 100% oxygen is given

69. 99 040 02 01 02 Respiratory and circulatory systems

Which statement applies to hypoxia?

- [x] sensitivity and reaction to hypoxia varies from person to person
- [ ] carbon monoxide increases the tolerance of the brain to oxygen deficiency
- [ ] you may become immune to hypoxia when exposed repeatedly to hypoxia
- [ ] it is possible to prognose when, how and where hypoxia reaction starts to set in

70. 100 040 02 01 02 Respiratory and circulatory systems

Hypoxia can also be caused by

- [x] a lack of red blood cells in the blood or decreased ability of the hemoglobin to transport oxygen
- [ ] a lack of nitrogen in ambient air
- [ ] too much carbon dioxide in the blood
- [ ] increasing oxygen partial pressure used for the exchange of gases

71. 101 040 02 01 02 Respiratory and circulatory systems

Which symptom of hypoxia is the most dangerous for conducting safe flight ?

- [x] The interference of reasoning and perceptive functions.
- [ ] Dizziness.
- [ ] Lack of adaptation.
- [ ] Lack of accomodation.

72. 102 040 02 01 02 Respiratory and circulatory systems

A pilot, climbing in a non-pressurised aircraft and without using supplemental oxygen will pass the " critical threshold" at approximately:

- [x] 22 000 ft
- [ ] 16 000 ft
- [ ] 18 000 ft
- [ ] 38 000 ft

73. 103 040 02 01 02 Respiratory and circulatory systems

Breathing 100% will lift the pilot's physiological safe altitude to approximately:

- [x] 38 000 ft
- [ ] 10 000
- [ ] 22 000 ft
- [ ] 45 000 ft

74. 104 040 02 01 02 Respiratory and circulatory systems

The most dangerous symptoms of hypoxia at altitude are

- [x] euphoria and impairment of judgement
- [ ] hyperventilation
- [ ] sensation of heat and blurred vision
- [ ] breathlessness and reduced night vision

75. 105 040 02 01 02 Respiratory and circulatory systems

When consciously breathing fast or hyperventilating due to high arousal or overstress, the carbon dioxide level in the blood is lowered, resulting in:

- [x] less oxygen to be diffused into the cells
- [ ] a poor saturation of oxygen in the blood
- [ ] a delay in the onset of hypoxia when flying at high altitudes
- [ ] the activation of the respiratory centre, which in turn causes hypoxia

76. 106 040 02 01 02 Respiratory and circulatory systems

With hyperventilation, caused by high levels of arousal or overstress:

- [x] an increased amount of carbon dioxide is exhaled causing muscular spasms and even unconsciousness
- [ ] "finger nails and lips will turn blue (" cyanosis")"
- [ ] more oxygen will reach the brain
- [ ] peripherical and scotopic vision will be improved

77. 375 040 02 01 02 Respiratory and circulatory systems

Which of the following symptoms can mark a beginning hyperventilation?

- [x] Dizzy feeling
- [ ] Slow heart beat
- [ ] Slow rate of breathing
- [ ] Cyanosis (blueing of lips and finger nails)

78. 376 040 02 01 02 Respiratory and circulatory systems

Out of the list of possible measures to counteract hyperventilation, the most effective measure against hyperventilation tetany is:

- [x] breathe into a plastic or paper bag
- [ ] hold breath
- [ ] avoid strenuous flight manoeuvres
- [ ] speak soothingly and get the person to breathe slowly

79. 377 040 02 01 02 Respiratory and circulatory systems

What event can cause a hyperventilation (not required by physical need)?
1. Pressure breathing.
2. Anxiety or fear.
3. Overstress.
4. Strong pain.
5. Jogging.

- [x] 1,2,3 and 4 are correct, 5 is false
- [ ] Only 2 and 3 are correct
- [ ] 1,2,3,4 and 5 are correct
- [ ] 1and 5 are both false

80. 378 040 02 01 02 Respiratory and circulatory systems

Which of the following could a pilot experience when he is hyperventilating?
1. Dizziness
2. Muscular spasms
3. Visual disturbances
4. Cyanosis

- [x] 1,2 and 3 are correct, 4 is false
- [ ] 1,2 and 4 are correct, 3 is false
- [ ] 1 is false, all others are correct
- [ ] 2 and 4 are false

81. 379 040 02 01 02 Respiratory and circulatory systems

A good method to treat hyperventilation is to:

- [x] talk oneself through the relevant procedure aloud to emotionally calm down and reduce the rate of breathing simultaneously
- [ ] don an oxygen mask
- [ ] excecute the valsalva manoeuvre
- [ ] close the eyes and relax

82. 380 040 02 01 02 Respiratory and circulatory systems

What could cause hyperventilation ?

- [x] Fear, anxiety and distress
- [ ] Abuse of alcohol
- [ ] Extreme low rate of breathing
- [ ] Fatigue

83. 381 040 02 01 02 Respiratory and circulatory systems

A pilot who is hyperventilating for a prolonged period of time may even get unconscious. Hyperventilation is likely to occur, when:

- [x] the pilot is emotionally aroused
- [ ] there is a low CO-pressure in the blood
- [ ] he is flying a tight turn
- [ ] there is an increased blood flow to the brain

84. 382 040 02 01 02 Respiratory and circulatory systems

Hyperventilation can cause unconsciousness, because:

- [x] blood circulation to the brain is slowed down
- [ ] oxygen saturation of the blood is decreased
- [ ] not enough time is left to exchange oxygen in the lungs
- [ ] oxygen saturation of the blood is increased and the brain will be supplied with more blood than normal

85. 383 040 02 01 02 Respiratory and circulatory systems

At what altitude (" threshold for compensatory reactions") does the human organism start with remarkable measures to compensate for the drop in pO2 when climbing? At about:

- [x] 6000-7000 FT
- [ ] 8000-9000 FT
- [ ] 9000-10000 FT
- [ ] 10000-12000 FT

86. 384 040 02 01 02 Respiratory and circulatory systems

Where is the " critical threshold" at which a pilot not using oxygen reaches the critical or lethal zone?
It starts at:

- [x] 22000 FT.
- [ ] 18000 FT
- [ ] It25000 FT
- [ ] It38000 FT

87. 385 040 02 01 02 Respiratory and circulatory systems

Short term memory can already be affected when flying as low as:

- [x] 8000 FT
- [ ] 12000 FT
- [ ] 15000 FT
- [ ] 20000 FT

88. 386 040 02 01 02 Respiratory and circulatory systems

Breathing pure oxygen (without pressure) will be sufficient up to an altitude of:

- [x] 38000 FT
- [ ] 45000 FT
- [ ] 60000 FT
- [ ] 80000 FT

89. 387 040 02 01 02 Respiratory and circulatory systems

TUC (Time of Useful Consciousness) is:

- [x] the length of time during which an individual can act with both mental and physical efficiency and alertness; measured from the moment at which he is exposed to hypoxia
- [ ] the time before becoming unconscious at a sudden pressure loss
- [ ] the time after pressure loss until decompression sickness sets in
- [ ] the time between the start of hypoxia and death

90. 388 040 02 01 02 Respiratory and circulatory systems

The " Effective Performance Time" or " Time of Useful Consciousness" after a decompression at 35 000 ft is:

- [x] between 30 and 60 seconds
- [ ] approximately 3 minutes
- [ ] approximately 5 minutes
- [ ] less than 20 seconds

91. 389 040 02 01 02 Respiratory and circulatory systems

The time between inadequate oxygen supply and incapacitation is called TUC (Time of Useful Consciousness). It

- [x] varies individually and depends on cabin pressure altitude
- [ ] is the same amount of time for every person
- [ ] is not dependent on physical or psychological pressure
- [ ] varies individually and does not depend on altitude

92. 391 040 02 01 02 Respiratory and circulatory systems

After a decompression to 43 000 FT the TUC (Time of Useful Consciousness) will be approximately:

- [x] 5-15 seconds
- [ ] 30-45 seconds
- [ ] 45-60 seconds
- [ ] 60-90 seconds

93. 392 040 02 01 02 Respiratory and circulatory systems

Flights immediately after SCUBA-diving (compressed gas mixtures, bottles) (>10 m depth)

- [x] are forbidden
- [ ] can be performed without any danger
- [ ] are allowed, if 38000 FT are not exceeded
- [ ] should be avoided because hypoxia may develop

94. 393 040 02 01 02 Respiratory and circulatory systems

Pain in the Joints (" bends"), which suddenly appear during a flight , are symptoms of

- [x] decompression sickness
- [ ] barotrauma
- [ ] air-sickness
- [ ] hypoxia

95. 394 040 02 01 02 Respiratory and circulatory systems

After a cabin pressure loss in approximately 35 000 FT the TUC (Time of Useful Consciousness) will be approximately:

- [x] 30 -90 seconds
- [ ] 10-15 seconds
- [ ] 3-4 minutes
- [ ] 5 minutes or more

96. 395 040 02 01 02 Respiratory and circulatory systems

You suffered a rapid decompression without the appearance of any decompression sickness symptoms.
How long should you wait until your next flight?

- [x] 12 hours
- [ ] 24 hours
- [ ] 36 hours
- [ ] 48 hours

97. 396 040 02 01 02 Respiratory and circulatory systems

Flying immediately following a dive with SCUBA diving equipment (> 10 m depth)

- [x] can cause decompression sicknesss even when flying at pressure altitudes below 18 000 FT
- [ ] prevents any dangers caused by aeroembolism (decompression sickness) when climbing to altitudes not exceeding 30 000 FT
- [ ] has no influence on altitude flights
- [ ] is forbidden for the flight crew, because it leads to hypoxia

98. 397 040 02 01 02 Respiratory and circulatory systems

After a decompression at high altitude

- [x] nitrogen gas bubbles can be released in the body fluids causing gas embolism, bends and chokes
- [ ] automatically oxygen is deployed into the cabin
- [ ] temperature in the cockpit will increase
- [ ] pressure differentials will suck air into the cabin

99. 398 040 02 01 02 Respiratory and circulatory systems

In airline operations decompression sickness symptoms

- [x] may develop after a decompression from 7000 FT cabin pressure altitude to 30000 FT flight altitude
- [ ] may develop when being decompressed from MSL to 15 000 FT
- [ ] appear only in air crew, previously engaged in diving activities
- [ ] may affect people with defect tympanic membrane

100. 399 040 02 01 02 Respiratory and circulatory systems

Symptoms of decompression sickness

- [x] are bends, chokes, skin manifestations, neurological symptoms and circulatory shock
- [ ] are only relevant when diving
- [ ] can only develop at altitudes of more than 40000 FT
- [ ] are flatulence and pain in the middle ear

101. 400 040 02 01 02 Respiratory and circulatory systems

Decompression sickness symptoms may develop due to

- [x] cabin pressure loss when flying at higher altitudes (above 18000 FT)
- [ ] sudden pressure surges in the cabin at altitudes below 18000 FT
- [ ] emergency descents after a cabin pressure loss
- [ ] fast flights from a high-pressure zone into a low pressure area when flying an unpressurized aeroplane

102. 401 040 02 01 02 Respiratory and circulatory systems

The eustachian tube serves for the pressure equalization between

- [x] middle ear and external atmosphere
- [ ] sinuses of the nose and external atmosphere
- [ ] nose and pharyngeal cavity and external atmosphere
- [ ] frontal, nose and maxillary sinuses

103. 402 040 02 01 02 Respiratory and circulatory systems

Disturbances of pressure equalization in air-filled cavities of the head (nose, ear etc.) are called:

- [x] barotrauma
- [ ] ebulism
- [ ] hypoxia
- [ ] hyperventilation

104. 403 040 02 01 02 Respiratory and circulatory systems

Barotrauma caused by gas accumulation in the stomach and intestinals can lead to:

- [x] pressure pain or flatulence
- [ ] barotitis
- [ ] decompresion sickness
- [ ] barosinusitis

105. 404 040 02 01 02 Respiratory and circulatory systems

What counter-measure can be used against a barotrauma of the middle ear (aerotitis)?

- [x] Close the mouth, pinch the nose tight and blow out thereby increasing the pressure in the mouth and throat. At the same time try to swallow or move lower jaw (Valsalva)
- [ ] Increase rate of descent
- [ ] Stop climbing, start descent
- [ ] Pilots should apply anti-cold remedies prior every flight to prevent barotrauma in the middle ear

106. 405 040 02 01 02 Respiratory and circulatory systems

How can you determine if a person is suffering from a barotrauma of the sinuses of the nose (aerosinusitis) or the middle ear (aerotitis) ?

- [x] Hearing difficulties will normally accompany aerotitis
- [ ] Aerosinusitis will never develop during descent
- [ ] Barotrauma of the middle ear will not effect hearing
- [ ] There is no difference

107. 406 040 02 01 02 Respiratory and circulatory systems

Barotrauma of the sinuses of the nose (aerosinusitis)

- [x] is caused by a difference in pressure existing between the sinus cavity and the ambient air
- [ ] is only caused by the flying sport, not by the diving sport
- [ ] is an irritation of sinuses by abuse of nose sprays
- [ ] is only caused by colds and their effects

108. 407 040 02 01 02 Respiratory and circulatory systems

Barodontalgia

- [x] arises especially with irritations of the sensitive tissues close to the root of a tooth
- [ ] arises only at higher altitudes and after decompression
- [ ] even arises with healthy teeth
- [ ] arises in combination with a cold and very high rates of descent

109. 408 040 02 01 02 Respiratory and circulatory systems

At a high altitude flight (no cabin pressure system available), a pilot gets severe flatulence due to trapped gases. The correct counter-measure is:

- [x] descend to lower altitude
- [ ] climb to a higher altitude
- [ ] "perform " valsalva maneouvre" "
- [ ] use supplemental oxygen

110. 409 040 02 01 02 Respiratory and circulatory systems

A barotrauma of the middle ear (aerotitis)

- [x] is more likely, when the pilot is flying with a respiratory infection and during descent
- [ ] is only caused by large pressure changes during climb
- [ ] causes severe pain in the sinuses
- [ ] is to be expected during rapid decompressions, but an emergency descent immediately following the decompression will eliminate the problem

111. 410 040 02 01 02 Respiratory and circulatory systems

Trapped intestinal gases can cause severe pain.
When is this the case?

- [x] More frequent when flying above 18 000 FT in a non-pressurized aircraft.
- [ ] At lower altitudes.
- [ ] Only in pressurized aircraft when flying at higher flight levels.
- [ ] During descent as well as during climb, when the cabin pressure altitude is exceeding 2 000 FT

112. 411 040 02 01 02 Respiratory and circulatory systems

Please mark the counter-measure a pilot can use against a barotrauma of the middle ear (aerotitis).

- [x] Stop descending, climb again and then descend with reduced sink rate
- [ ] Increase the rate of descent
- [ ] "Stop chewing and swallowing movements (" Valsalva")"
- [ ] Use drugs against a cold

113. 412 040 02 01 02 Respiratory and circulatory systems

Barotrauma of the middle ear most likely will occur

- [x] when descending rapidly
- [ ] during a long high altitude flight
- [ ] when climbing
- [ ] in sudden steep turns

114. 413 040 02 01 02 Respiratory and circulatory systems

Barotrauma of the middle ear is usually accompanied by

- [x] a reduction in hearing ability and the feeling of increasing pressure
- [ ] dizziness
- [ ] noises in the ear
- [ ] pain in the joints

115. 414 040 02 01 02 Respiratory and circulatory systems

The risk of a barotrauma of the middle ear is more likely to occur

- [x] with colds and rapid descents
- [ ] with colds and fast climbs
- [ ] with colds and slow ascents
- [ ] after a decompression

116. 416 040 02 01 02 Respiratory and circulatory systems

Equalization of pressure is limited between the middle ear and the ambient, when:

- [x] the eustachian tube is blocked
- [ ] the nose is pinched
- [ ] you breath through the mouth
- [ ] barotrauma exists in the sinuses

117. 417 040 02 01 02 Respiratory and circulatory systems

A barotrauma of the middle ear is

- [x] an acute or chronic trauma of the middle ear caused by a difference of pressure on either side of the eardrum
- [ ] a bacterial infection of the middle ear
- [ ] a dilatation of the eustachian tube
- [ ] an infection of the middle ear caused by rapid decompression

118. 459 040 02 01 02 Respiratory and circulatory systems

The effect of hypoxia to vision

- [x] is stronger with the rods
- [ ] is usual stronger with the cones
- [ ] can only be detected when smoking tobacco
- [ ] does not depend on the level of illumination

119. 464 040 02 01 02 Respiratory and circulatory systems

When oxygen is beeing transferred from the blood into the tissues and carbon dioxide from the body cells into the blood, it is called:

- [x] internal respiration
- [ ] external respiration
- [ ] ventilation
- [ ] hyperventilation

120. 467 040 02 01 02 Respiratory and circulatory systems

The eustachian tube is the passage way between the

- [x] nasopharynx and the middle ear
- [ ] nose, pharynx and inner ear
- [ ] nose, pharynx and the external auditory canal
- [ ] sinuses and the pharynx

121. 470 040 02 01 02 Respiratory and circulatory systems

Which part of the ear could be affected due to air pressure changes during climb and/or descent?

- [x] The eustachian tube and the tympanic membrane (ear drum)
- [ ] The semicircular canals
- [ ] The cochlea
- [ ] The sacculus and utriculus

122. 477 040 02 01 02 Respiratory and circulatory systems

Through which part of the ear does the equalization of pressure take place, when altitude is changed?

- [x] Eustachian tube
- [ ] Cochlea
- [ ] Tympanic membrane
- [ ] External auditory canal

123. 509 040 02 01 02 Respiratory and circulatory systems

Hypoxia effects visual performance.
A pilot may:

- [x] get blurred and/or tunnel vision
- [ ] have a reduction of 25% in visual acuity at 8000 FT AGL
- [ ] be unable to maintain piercing vision below 5000 FT AGL
- [ ] get colour blindness accompanied by severe headache

124. 514 040 02 01 02 Respiratory and circulatory systems

Which of the following symptoms could a pilot get, when he is subjected to hypoxia?
1. Fatigue.
2. Euphoria.
3. Lack of concentration.
4. Pain in the joints.
5. Sensation of suffocation.

- [x] 1, 2 and 3 are correct
- [ ] 4 and 5 are correct
- [ ] 1, 2, 3 and 4 are correct
- [ ] Only 5 is false

125. 2,610 040 02 01 02 Respiratory and circulatory systems

The type of hypoxia, which occurs at altitude is a explained by:

- [x] Dalton´s law
- [ ] Boyle Mariotte´s law
- [ ] Henry´s law
- [ ] Graham´s law

126. 2,611 040 02 01 02 Respiratory and circulatory systems

Gaseous exchange in the human body depends on:
1. diffusion gradients between the participating gases
2. permeable membranes
3. partial pressure of oxygen in the alveolus air
4. acid-base balance in the blood

- [x] 1, 2, 3 and 4 are correct
- [ ] 1, 2 and 3 are correct, 4 is false
- [ ] 2 and 3 are false
- [ ] only 1 is correct

127. 2,613 040 02 01 02 Respiratory and circulatory systems

Hyperventilation causes

- [x] a lack of carbon dioxide in the blood
- [ ] an excess of carbon dioxide in the blood
- [ ] acidosis
- [ ] hypochondria

128. 2,614 040 02 01 02 Respiratory and circulatory systems

Anxiety and fear can cause

- [x] hyperventilation
- [ ] hypoxia
- [ ] spatial disorientation
- [ ] hypoglycemia

129. 2,615 040 02 01 02 Respiratory and circulatory systems

Symptoms of decompression sickness

- [x] sometimes can appear with a delay after the airplane is on the ground
- [ ] always begin immediately after the decompression during the flight
- [ ] normally take 2 or 3 days to appear after exposure to a hypobaric atmosphere
- [ ] disappear on landing and never appear again

130. 2,616 040 02 01 02 Respiratory and circulatory systems

The first effect to be noticed on gradual exposure to high positive radial accelerations is

- [x] grey-out
- [ ] loss of consciousness
- [ ] black-out
- [ ] red-vision

131. 2,654 040 02 01 02 Respiratory and circulatory systems

Decompression sickness occurs in association with exposure to reduced atmospheric pressure.
The evolution of bubbles of nitrogen coming out of solution in body tissues can be derived from:

- [x] Henry´s law
- [ ] Boyle Mariotte´s law
- [ ] Dalton´s law
- [ ] Gay Lussac´s law

132. 2,655 040 02 01 02 Respiratory and circulatory systems

The normal rate of breathing is

- [x] 20 to 30 cycles a minute
- [ ] 12 to 16 cycles a minute
- [ ] 32 to 40 cycles a minute
- [ ] 60 to 100 cycles a minute

133. 2,656 040 02 01 02 Respiratory and circulatory systems

The main function of the red blood cells is

- [x] to transport oxygen
- [ ] to participate in the process of coagulation of the blood
- [ ] the cellular defense of the organism
- [ ] to contribute to the immune response of the organism

134. 2,660 040 02 01 02 Respiratory and circulatory systems

Altitude-hypoxia, when breathing ambient air, should not occur (indifferent phase)

- [x] below 3 000 m
- [ ] up to 5 000 m
- [ ] between 3 000 m and 5 000 m
- [ ] between 5 000 m and 7 000 m

135. 2,665 040 02 01 02 Respiratory and circulatory systems

"The Bends" as a symptom of decompression sickness consists of:

- [x] pain in the joints
- [ ] pain in the thorax and a backing cough
- [ ] CNS-disturbances
- [ ] loss of peripheral vision

136. 2,666 040 02 01 02 Respiratory and circulatory systems

One of the most frequent symptom(s) of decompression sickness emerging after a decompression in airline operation

- [x] are the bends
- [ ] are the chokes
- [ ] is a shock
- [ ] are neurological damages to the CNS

137. 3,532 040 02 01 02 Respiratory and circulatory systems

In relation to hypoxia, which of the following paraphrase(s) is (are) correct?

- [x] This is a physical condition caused by a lack of oxygen to meet the needs of the body tissues, leading to mental and muscular disturbances, causing impaired thinking, poor judgement and slow reactions
- [ ] This is a condition of lacking oxygen in the brain causing the circulatory system to compensate by decreasing the heart rate.
- [ ] Hypoxia is often produced during steep turns when pilots turn their heads in a direction opposite to the direction in which the aircraft is turning
- [ ] This is a physical condition caused by a lack of oxygen saturation in the blood while hyperventilating.

138. 3,533 040 02 01 02 Respiratory and circulatory systems

Hyperventilation is due to an excessive rate of breathing and can produce the following symptoms:

- [x] dizziness, tingling sensation in the fingers and toes, nausea and blurred vision
- [ ] reduced heart rate and increase in visual acuity
- [ ] a state of overconfidence and reduced heart rate
- [ ] blue finger-nails and lips

139. 3,534 040 02 01 02 Respiratory and circulatory systems

In order to get rid of excess nitrogen following scuba diving, subsequent flights should be delayed

- [x] 24 hours
- [ ] 3 hours after non decompression diving
- [ ] 36 hours after any scuba diving
- [ ] 48 hours after a continuous ascent in the water has been made

140. 3,542 040 02 01 02 Respiratory and circulatory systems

The cabin pressure in airline operation is

- [x] normally not exceeding 6 000 to 8 000 feet
- [ ] normally not exceeding 2 000 to 3 000 feet
- [ ] normally not exceeding 4 000 to 5 000 feet
- [ ] always equivalent to sea level

141. 6,896 040 02 01 02 Respiratory and circulatory systems

Which of the folllowing statements concerning barotrauma are correct? They are:

- [x] due to pressure differentials between gases in hollow cavities of the body and the ambient pressure
- [ ] caused by an increase in the partial pressure of oxygen associated with a decrease in altitude
- [ ] more likely to occur during ascent then during a rapid descent
- [ ] mainly associated with a sink rate which exceeds the ability of the body to balance its internal pressures

142. 6,897 040 02 01 02 Respiratory and circulatory systems

Decompression sickness may occur as from :
- 1: an altitude of more than 18,000 ft
- 2 : an altitude of more than 5,500 ft
- 3 : a rate of climb of more than 500 ft/min exceeding 18,000 ft
- 4 : a temperature of more than 24°C

- [x] 1,3
- [ ] 2,3
- [ ] 1,3,4
- [ ] 2,4

143. 6,898 040 02 01 02 Respiratory and circulatory systems

With regard to decompression sickness associated with flight, we know that :

- [x] age, obesity and scuba diving are risk factors
- [ ] scuba diving does not pose any problem for a subsequent flight
- [ ] sex is the prime risk factor, with two out of every three women being sensitive to it
- [ ] physical activity after decompression reduces the risks of decompression sickness symptoms to appear

144. 6,900 040 02 01 02 Respiratory and circulatory systems

The procedure to be followed in the event of decompression when flying above 10,000 ft must :

- [x] allow for the rapid supply of oxygen in order to prevent the pilot becoming hypoxic
- [ ] allow for a rapid descent independent from sufficient supply of oxygen in order to prevent disorders due to hypoxia
- [ ] make it possible to prevent hyperventilation owing to the inhalation of 100 % oxygen
- [ ] make it possible to eliminate the risk of fogging due to the sudden pressure changes

145. 6,901 040 02 01 02 Respiratory and circulatory systems

What is the " Time of Useful Consciousness" for a rapid decompression at 25,000 ft ?

- [x] Between 3 and 5 minutes depending on the physical activities of the subjected pilot
- [ ] About 18 seconds
- [ ] Between 25 seconds and 1 minute 30 seconds
- [ ] About 30 seconds

146. 6,902 040 02 01 02 Respiratory and circulatory systems

The Time of Useful Consciousness may vary according to :
1 : physical activity of the subjected crew
2 : the experience of the pilot on the type of aircraft in question
3 : the strength and time of decompression
4 : the cabin temperature

- [x] 1,3
- [ ] 1,2
- [ ] 3,4
- [ ] 4

147. 6,903 040 02 01 02 Respiratory and circulatory systems

During a climb, we can observe the following with regard to the partial oxygen pressure :

- [x] an identical decrease to that for atmospheric pressure
- [ ] a decrease which is three times faster than the decrease in atmospheric pressure
- [ ] an increase up to 10,000 ft followed by a sudden pressure drop above that altitude
- [ ] an increase which is inversely proportional to the decrease in atmospheric pressure

148. 6,904 040 02 01 02 Respiratory and circulatory systems

The following may occur during gradual depressurisation between 12,000 and 18,000 ft :

- [x] a loss of coordination associated with fatigue and headache
- [ ] a rapid decrease in blood pressure which will lead to headache and also to a loss of coordination
- [ ] sudden visual hyperacuity associated with headache
- [ ] a rapid decrease in blood pressure leading to considerable somnolence

149. 6,920 040 02 01 02 Respiratory and circulatory systems

What is the main problem caused by positive (+Gz) accelerations?

- [x] A pooling of blood in the lower portions of the body, and hence less blood available
- [ ] An improvement of peripheral vision
- [ ] An increase in blood pressure in the upper part of the body (above heart-level)
- [ ] Hyperoxygenation of the blood which may lead to sensory disorders

150. 6,921 040 02 01 02 Respiratory and circulatory systems

What type of acceleration has the most significant physiological effect upon the pilot?

- [x] Radial acceleration (+ Gz)
- [ ] Linear acceleration (+ Gx)
- [ ] Transverse acceleration (+ Gy)
- [ ] Combined linear and transverse acceleration

151. 6,924 040 02 01 02 Respiratory and circulatory systems

Incapacitation caused by barotrauma from gaseous expansion after decompression at high altitude may be associated with the following part(s) of the body:
1 the digestive tract
2 the ears
3 the eyes
4 the sinuses

- [x] 1
- [ ] 1,2,3
- [ ] 2,3,4
- [ ] 2,4

152. 6,926 040 02 01 02 Respiratory and circulatory systems

Of the following alternatives, which objective effects are due to positive acceleration (+ Gz)?
- 1: Decrease in heart rate
- 2: Pooling of blood into lower parts of the body
- 3: Drop in blood pressure above heart-level
- 4: Downward displacement or deformation of soft or mobile organs

- [x] 2,3,4
- [ ] 1,2,3
- [ ] 1
- [ ] 1,3,4

153. 6,927 040 02 01 02 Respiratory and circulatory systems

What is hypoxia ?

- [x] Any condition where the oxygen concentration of the body is below normal limits or where the oxygen available to the body cannot be used due to some pathological condition
- [ ] The total absence of oxygen in the air
- [ ] The respiratory symptom associated with altitude decompression sickness
- [ ] A state characterised by an excessive supply of oxygen which may be due to maladjustment of the mask

154. 6,931 040 02 01 02 Respiratory and circulatory systems

What could be symptoms of hypoxia (when flying without oxygen) above 12,000 ft?

- [x] Headache, fatigue, dizziness, lack of coordination
- [ ] Headache, thirst, somnolence, collapse
- [ ] Euphoria, headache, improvement in judgement, loss of consciousness
- [ ] Trembling, increase in body temperature, convulsions,slowing of the rate of breathing

155. 6,948 040 02 01 02 Respiratory and circulatory systems

What is the procedure above 10.000 ft altitude when faced with explosive decompression?

- [x] Don an oxygen mask and descend to below 10,000 ft
- [ ] First inform ATC
- [ ] Descend to below 10,000 ft and signal an emergency
- [ ] Check the cabin altitude, don an oxygen mask and maintain level flight

156. 6,949 040 02 01 02 Respiratory and circulatory systems

What is the average Time of Useful Consciousness after a rapid decompression at 40,000 ft ?

- [x] About 12 seconds
- [ ] Between 20 seconds and 1 minute
- [ ] About 40 secods
- [ ] More than 1 minute

157. 6,950 040 02 01 02 Respiratory and circulatory systems

What is the Time of Useful Consciouness ?

- [x] The length of time during which an individualcan act with both mental and physical efficiency and alertness, measured from the moment at which he loses his available oxygen supply
- [ ] The time taken to become aware of hypoxia due to gradual decompression
- [ ] The pilot's reaction time when faced with hypoxia
- [ ] The period of time between the start of hypoxia and the moment that the pilot becomes aware of it

158. 6,952 040 02 01 02 Respiratory and circulatory systems

What are the main clinical signs of hypoxia during explosive decompression ?

- [x] Increase in heart and respiratory rates, euphoria, impairment of judgement, memory disorders
- [ ] Headaches, fatigue, somnolence, palpitations
- [ ] Increase in heart rate, decrease in body temperature impairment of judgement
- [ ] Headaches, articular pain, speeding-up of the respiratory rate, memory disorders

159. 6,953 040 02 01 02 Respiratory and circulatory systems

Which is the procedure to be followed when symptoms of decompression sickness occur?

- [x] Descend to the lowest possible level and land as soon as possible
- [ ] Descend to the lowest possible level and wait for the symptoms to disappear before climbing again
- [ ] Only medical treatment is of use
- [ ] Only the prompt supply of oxygen is necessary

160. 6,954 040 02 01 02 Respiratory and circulatory systems

What is decompression sickness ?

- [x] An sickness resulting from the formation of nitrogen bubbles in bodily tissues and fluids after a cabin pressure loss at high altitude
- [ ] A frequent disorder in commercial aviation due to the pressurisation curve of modern aircraft
- [ ] A disorder which is solely encountered below 18,000 ft
- [ ] The formation of air bubbles in bodily tissues, with no consequences for people's capabilities

161. 6,955 040 02 01 02 Respiratory and circulatory systems

Which of the following statements are correct:
-1: Scuba diving may be practiced without restriction
-2: Many medicines have effects which are incompatible with flight safety
-3: An adequate amount of fluid should be drunk when flying
-4: Diet has no repercussion on health

- [x] 2 and 3 are correct
- [ ] 1, 2 and 3 are correct
- [ ] 2, 3 and 4 are correct
- [ ] 1, 3 and 4 are correct

162. 6,969 040 02 01 02 Respiratory and circulatory systems

You climb from 0 to 50.000 ft and measure the decrease of the pressure per 5.000 ft. The absolute difference in barometric pressure is greatest between :

- [x] 0 and 5.000 feet
- [ ] 5.000 and 10.000 feet
- [ ] 10.000 and 15.000 feet
- [ ] 45.000 and 50.000 feet

163. 6,970 040 02 01 02 Respiratory and circulatory systems

Physiological problems due to increasing altitude are caused by :

- [x] decreased atmospherical pressure
- [ ] disorientation
- [ ] accelerations
- [ ] increased atmospherical pressure

164. 6,972 040 02 01 02 Respiratory and circulatory systems

Air at an altitude of 18.000 feet contains, approximately :

- [x] 21% oxygen
- [ ] 5% oxygen
- [ ] 15% oxygen
- [ ] 10% oxygen

165. 6,973 040 02 01 02 Respiratory and circulatory systems

Dry air is a mixture of gases. Their volume percentage is about:

- [x] 21% oxygen,78% nitrogen, 1% other gases
- [ ] 18% oxygen, 80% nitrogen, 2% other gases
- [ ] 19% oxygen, 80% nitrogen, 1% other gases
- [ ] 25% oxygen, 74% nitrogen, 1% other gases

166. 6,997 040 02 01 02 Respiratory and circulatory systems

Under normal circumstances, which gas will diffuse from the blood to the alveoli:

- [x] carbon dioxide
- [ ] carbon monoxide
- [ ] nitrogen
- [ ] oxygen

167. 7,001 040 02 01 02 Respiratory and circulatory systems

In the pulmonary artery there is :

- [x] oxygen poor and carbon dioxide rich blood
- [ ] oxygen poor and carbon dioxide poor blood
- [ ] oxygen rich and carbon dioxide poor blood
- [ ] oxygen rich and carbon dioxide rich blood

168. 7,004 040 02 01 02 Respiratory and circulatory systems

The thin walls of capillaries are permeable for :

- [x] gases
- [ ] platelets
- [ ] protein
- [ ] red blood cells

169. 7,005 040 02 01 02 Respiratory and circulatory systems

The circulatory system, among other things, allows for :
1. transportation of oxygen and carbon dioxide
2. transportation of information by chemical substances

- [x] 1 and 2 are correct
- [ ] 1 is correct and 2 is false
- [ ] 1 is false and 2 is correct
- [ ] both are false

170. 7,008 040 02 01 02 Respiratory and circulatory systems

The part of blood without cell is called :

- [x] plasm
- [ ] lymph
- [ ] serum
- [ ] water

171. 7,011 040 02 01 02 Respiratory and circulatory systems

Haemoglobin is:

- [x] in the red blood cells
- [ ] in the platelets
- [ ] dissolved in the plasma
- [ ] in the white blood cells

172. 8,186 040 02 01 02 Respiratory and circulatory systems

Someone who has anaemia has:

- [x] not enough functional hemoglobin
- [ ] not enough platelets
- [ ] not enough plasma
- [ ] not enough white blood cells

173. 8,188 040 02 01 02 Respiratory and circulatory systems

The average pulse of a healthy adult in rest is about:

- [x] 60 to 80 beats/min
- [ ] 30 to 50 beats/min
- [ ] 90 to 100 beats/min
- [ ] 110 to 150 beats/min

174. 8,190 040 02 01 02 Respiratory and circulatory systems

Pulse rate is influenced by the following factors:
1. Adrenalin
2. Cortisol
3. Physical exercise.
4. Glucose concentration in the blood

- [x] 1,3 and 4 are correct, 2 is false
- [ ] 1,2,3 and 4 are correct
- [ ] 2,3 and 4 are correct, 1 is false
- [ ] 1,2 and 4 are correct, 3 is false

175. 8,191 040 02 01 02 Respiratory and circulatory systems

With a heart rate of 72 beats per minute and a stroke volume of 70 ml the cardial output is about:

- [x] 5 liters/min
- [ ] 6 liters/min
- [ ] 7 liters/min
- [ ] 8 liters/min

176. 8,192 040 02 01 02 Respiratory and circulatory systems

At rest the cardial output (the quantity of blood the heart pumps in one minute) of an adult is approximately:

- [x] 5 liters/min
- [ ] 450 ml/min
- [ ] 45 liters/min
- [ ] 75 liters/min

177. 8,193 040 02 01 02 Respiratory and circulatory systems

The heart muscle is supplied with blood from:

- [x] the coronary arteries
- [ ] the auricles
- [ ] ventricles
- [ ] the pulmonary veins

178. 8,195 040 02 01 02 Respiratory and circulatory systems

The normal arterial blood-pressure of a healthy adult is (systolic/diastolic):

- [x] 120/80 mm Hg
- [ ] 80/20 mm Hg
- [ ] 180/120 mm Hg
- [ ] 220/180 mm Hg

179. 8,196 040 02 01 02 Respiratory and circulatory systems

Which of the following statements is correct?
The blood-pressure which is measured during flight medical checks is the pressure

- [x] in the artery of the upper arm (representing the pressure at heart level)
- [ ] in all the blood-vessels of the body (representing the pressure in the whole body)
- [ ] in the mussles of the upper arm
- [ ] in the veins of the upper arm

180. 8,198 040 02 01 02 Respiratory and circulatory systems

Blood-pressure depends on:
1. the cardiac output
2. the resistance of the capillaries (peripheral resistance)

- [x] 1 and 2 are correct
- [ ] 1 is correct 2 is false
- [ ] 1 is false 2 is correct
- [ ] 1 and 2 are both false

181. 8,199 040 02 01 02 Respiratory and circulatory systems

The blood-pressure depends on:
1. the work of the heart
2. the peripheral resistance
3. the elasticity of the arterial walls
4. the bloode volume and viscosity

- [x] 1,2,3 and 4 are correct
- [ ] 1,2 and 3 are correct, 4 is false
- [ ] 1,3 and 4 are correct, 2 is false
- [ ] 2,3 and 4 are correct, 1 is false

182. 8,200 040 02 01 02 Respiratory and circulatory systems

Changes in blood-pressure are measured by:

- [x] pressoreceptors
- [ ] arteriols
- [ ] adrenal glands
- [ ] pacemakers

183. 8,201 040 02 01 02 Respiratory and circulatory systems

The pressoreceptors are located in

- [x] the carotid and aortic arterial vessels
- [ ] the intestines
- [ ] the heart
- [ ] the lungs

184. 8,203 040 02 01 02 Respiratory and circulatory systems

When the pressoreceptors signal a lowering of the blood-pressure there are adaptation mechanisms which result in:
1. an increase of respiratory activity
2. the arteriols to constrict
3. an increase of cardiac output
4. the heart rate to rise

- [x] 2,3 and 4 are correct, 1 is false
- [ ] 1,3 and 4 are correct, 2 is false
- [ ] 1,2 and 4 are correct, 3 is false
- [ ] 1,2 and 3 are correct, 4 is false

185. 8,204 040 02 01 02 Respiratory and circulatory systems

The physiological effects of accelerations to the human body depend on:
1. the duration of the G-forces
2. the onset rate of the G-forces
3. the magnitude of the G-forces
4. the direction of the G-forces.

- [x] 1,2,3 and 4 are correct
- [ ] 1,2,3 are correct, 4 is false
- [ ] 2,3 and 4 are correct, 1 is false
- [ ] 1and 4 are correct, 3 is false

186. 8,205 040 02 01 02 Respiratory and circulatory systems

Inertia in the direction head => feet will cause the blood-pressure in the brain to:

- [x] decrease
- [ ] remain constant
- [ ] increase
- [ ] first increase, then decrease

187. 8,207 040 02 01 02 Respiratory and circulatory systems

During sustained positive G-forces the order of symptoms you can expect is:

- [x] grey-out, tunnel vision, black-out and unconsciousness.
- [ ] unconsciousness, black-out, tunnel vision and grey out.
- [ ] black-out, grey-out, tunnel vision and unconsciousness.
- [ ] grey-out, unconsciousness, black-out and tunnel vision

188. 8,209 040 02 01 02 Respiratory and circulatory systems

Which of the following measures can reduce the chance of a black-out during positive G-manoeuvres?

- [x] A tilt back seat.
- [ ] Breathing oxygen.
- [ ] Sit in upright position and keep relaxed.
- [ ] Hyperventilation.

189. 8,210 040 02 01 02 Respiratory and circulatory systems

The normal rate of breathing of an adult at rest is about:

- [x] 16 cycles per minute
- [ ] 4 cycles per minute
- [ ] 32 cycles per minute
- [ ] 72 cycles per minute

190. 8,211 040 02 01 02 Respiratory and circulatory systems

The volume of air beeing exchanged during a normal breathing cycle (tidal volume) is about:

- [x] 500 ml of air
- [ ] 350 ml of air
- [ ] 150 ml of air
- [ ] 75 ml of air

191. 8,212 040 02 01 02 Respiratory and circulatory systems

When exhaling, the expired air contains:

- [x] more carbon dioxide than the inspired air
- [ ] more nitrogen than the inhaled air
- [ ] less water vapour than the inhaled air
- [ ] more oxygen than the inhaled air

192. 8,213 040 02 01 02 Respiratory and circulatory systems

The primary factor to control the rate and depth of breathing is the:

- [x] pressure of carbon dioxide in the blood
- [ ] partial pressure of nitrogen
- [ ] partial pressure of oxygen in the blood
- [ ] total air pressure in the blood

193. 8,214 040 02 01 02 Respiratory and circulatory systems

The transfer of oxygen from the alveoli to the blood can be discribed by:

- [x] the law of diffusion
- [ ] Boyle's Law
- [ ] Dalton's Law
- [ ] Henry's Law

194. 8,215 040 02 01 02 Respiratory and circulatory systems

The transfer of carbon dioxide from the blood to the alveoli can be described by:

- [x] the law of diffusion
- [ ] Boyles Law
- [ ] Dalton's Law
- [ ] Henry's Law

195. 8,217 040 02 01 02 Respiratory and circulatory systems

The partial pressure of carbon dioxide in the alveoli is:

- [x] lower than in the blood
- [ ] almost the same as in the atmospheric air
- [ ] higher than the pressure of carbon dioxide in the blood
- [ ] lower than the pressure of carbon dioxide in the atmospheric air.

196. 8,221 040 02 01 02 Respiratory and circulatory systems

The symptoms of hyperventilation are caused by a:

- [x] surplus of CO2 in the blood
- [ ] surplus of O2 in the blood
- [ ] shortage of CO in the blood
- [ ] shortage of CO2 in the blood

197. 8,224 040 02 01 02 Respiratory and circulatory systems

A pressurized cabin helps to prevent:
1. decompression sickness
2 .the problem of expansion of gases in the intestines
3. hypoxia
4. coronary desease

- [x] 1, 2 and 3 are correct.
- [ ] 1, 2 and 4 are correct.
- [ ] 2, 3 and 4 are correct.
- [ ] 1, 3 and 4 are correct.

198. 8,225 040 02 01 02 Respiratory and circulatory systems

Healthy people are usually capable to compensate for a lack of oxygen up to

- [x] 10.000 - 12.000feet
- [ ] 15.000 feet
- [ ] 20.000 feet
- [ ] 25.000 feet

199. 8,226 040 02 01 02 Respiratory and circulatory systems

When flying above 10.000 feet hypoxia arises because:

- [x] the partial oxygen pressure is lower than at sea level.
- [ ] the composition of the blood changes
- [ ] the composition of the air is different from sea level
- [ ] the percentage of oxygen is lower than at sea level

200. 8,227 040 02 01 02 Respiratory and circulatory systems

Saturation of oxygen in the blood at sea level is 98%. This saturation decreases with:
1. decreasing air pressure
2. carbon monoxide poisoning
3. increasing altitude
4. increasing air pressure

- [x] 1, 2 and 3 are correct, 4 is false
- [ ] 1, 2 and 4 are correct, 3 is false
- [ ] 2, 3 and 4 are correct, 1 is false
- [ ] 1, 3 and 4 are correct, 2 is false

201. 8,229 040 02 01 02 Respiratory and circulatory systems

Hypoxia is a situation in which the cells

- [x] have a shortage of oxygen
- [ ] are saturated with nitrogen
- [ ] are saturated with oxygen
- [ ] have a shortage of carbon dioxide

202. 8,230 040 02 01 02 Respiratory and circulatory systems

The severity of hypoxia depends on the:
1. rate of decompression
2. physical fitness
3. flight level
4. individual tolerance

- [x] 1,2,3 and 4 are correct
- [ ] 1,2 and 3 are correct, 4 is false
- [ ] 2,3 and 4 are correct, 1 is false
- [ ] 1 and 3 are correct, 2 and 4 are false

203. 8,231 040 02 01 02 Respiratory and circulatory systems

Which of the following statements concerning hypoxia is correct?

- [x] It is a potential threat to safety.
- [ ] It is never a problem at altitudes below 25.000 ft.
- [ ] It activates the senses and makes them function better.
- [ ] It has little effect on the body, because the body can always compensate for it.

204. 8,232 040 02 01 02 Respiratory and circulatory systems

Early symptoms of hypoxia could be:
1. euphoria
2. decreased rate and depth of breathing
3. lack of concentration
4. visual disturbances

- [x] 1,3 and 4 are correct
- [ ] 1,2,3 and 4 are correct
- [ ] 1,2 and 3 are correct
- [ ] 1,2 and 4 are correct

205. 8,233 040 02 01 02 Respiratory and circulatory systems

One of the most dangerous symptoms of hypoxia concerning flight safety is:

- [x] impaired judgement, disabling the pilot to recognize the symptoms
- [ ] reduced coordination of limb movements, causing the pilot to spin
- [ ] cyanosis, reducing then pilots ability to hear
- [ ] hyperventilation, causing emotional stress

206. 8,234 040 02 01 02 Respiratory and circulatory systems

Which of the following symptoms can indicate the beginning of hypoxia?
1. Blue lips and finger nails.
2. Euphoria.
3. Flatulence.
4 .Unconsciousness..

- [x] 1, 2 and 4 are correct.
- [ ] 1, 2 and 3 are correct.
- [ ] 2, 3 and 4 are correct.
- [ ] 1, 3 and 4 are correct.

207. 8,235 040 02 01 02 Respiratory and circulatory systems

Among the functions below, which is the most sensitive to hypoxia?

- [x] Night vision.
- [ ] Motor coordination.
- [ ] Hearing.
- [ ] Speech.

208. 8,236 040 02 01 02 Respiratory and circulatory systems

You are crossing the Alps in a non-pressurised aircraft at an altitude of 15.000 feet. You do not use the oxygen mask because you feel fine. This is unsafe, because:

- [x] your judgement could be impaired
- [ ] the blood-pressure can get too high
- [ ] the blood-pressure can get too low
- [ ] you will get the bends

209. 8,237 040 02 01 02 Respiratory and circulatory systems

During a night flight at 10,000 feet you notice that your acuity of vision has decreased. In this case you can increase your acuity by:

- [x] breathing extra oxygen through the oxygen mask.
- [ ] closing one eye
- [ ] scanning sectors of the field of vision
- [ ] dim the instrument lights

210. 8,238 040 02 01 02 Respiratory and circulatory systems

During flight all crewmembers have one or more of the following symptoms:
1. blue lips
2. mental disturbances
3. tingling sensations in arms and/or legs
4. reduction of peripheral vision
Which is the possible cause?

- [x] Hypoxia.
- [ ] Glaucoma.
- [ ] Hypothermia.
- [ ] Hypoglycaemia.

211. 8,239 040 02 01 02 Respiratory and circulatory systems

Which measure(s) will help to compensate hypoxia?
1. Descend below 10 000 FT.
2. Breathe 100 % oxygen.
3. Climb to or above 10 000 FT.
4. Reduce physical activities.

- [x] 1, 2 and 4 are correct
- [ ] 1, 2 and 3 are correct
- [ ] only 1 is correct
- [ ] 1 and 2 are correct, 3 and 4 are false

212. 8,240 040 02 01 02 Respiratory and circulatory systems

Hypoxia can be prevented when the pilot

- [x] is using additional oxygen when flying above 10.000 feet
- [ ] is relying on the body's built in warning system recognizing any stage of hypoxia
- [ ] is swallowing, yawing and applying the Valsalva method
- [ ] will not exceed 20 000 FT cabin pressure altitude

213. 8,241 040 02 01 02 Respiratory and circulatory systems

Hypoxia can occur because:

- [x] you are hyperventilating
- [ ] you are getting toomuch solar radiation
- [ ] you inhale too much nitrogen
- [ ] the percentage of oxygen is lower at altitude

214. 8,244 040 02 01 02 Respiratory and circulatory systems

You should not despense blood without prior information from your flight surgeon. The most important reason for this advise is:

- [x] you are more susceptible to hypoxia after a blood-donation.
- [ ] the chance you get the bends is higher after blood-donation
- [ ] your blood-pressure is too low after blood-donation
- [ ] your heart frequency is too low after blood-donation

215. 8,245 040 02 01 02 Respiratory and circulatory systems

Hyperventilation is:

- [x] an increased lung ventilation
- [ ] a too high percentage of nitrogen in the blood
- [ ] a decreased lung ventilation
- [ ] a too high percentage of oxygen in the blood.

216. 8,246 040 02 01 02 Respiratory and circulatory systems

Hyperventilation is:

- [x] a normal compensatory physiological reaction to a drop in partial oxygen pressure (i.e. when climbing a high mountain)
- [ ] an accellerated heart frequency caused by an increasing blood pressure
- [ ] an accellerated heart frequency caused by a decreasing blood-pressure
- [ ] a reduction of partial oxygen pressure in the brain

217. 8,248 040 02 01 02 Respiratory and circulatory systems

If somebody starts breathing faster and deeper without physiological need

- [x] the blood turns less more alkaline
- [ ] the blood turns more acid
- [ ] the acid-base balance of the blood will not change
- [ ] the blood pressure in the brain will rise significantly

218. 8,249 040 02 01 02 Respiratory and circulatory systems

During running your muscles are producing more CO2, raising the CO2 level in the blood. The consequence is:

- [x] hyperventilation (the rate and depth of breathing will increase)
- [ ] cyanosis
- [ ] hypoxia
- [ ] vertigo

219. 8,254 040 02 01 02 Respiratory and circulatory systems

During a final approach under bad weather conditions, you feel dizzy, get tingling sensations in your hands and a rapid heart rate.
These symptoms could indicate:

- [x] hyperventilation
- [ ] disorientation
- [ ] hypoxia
- [ ] carbon monoxide poisoning

220. 8,255 040 02 01 02 Respiratory and circulatory systems

During final approach under bad weather conditions you are getting uneasy, feel dizzy and get tingling sensations in your hands.
When hyperventilating you should

- [x] control your rate and depth of breathing
- [ ] descend
- [ ] apply the Valsalva method
- [ ] use the oxygen mask

221. 8,257 040 02 01 02 Respiratory and circulatory systems

A pilot can overcome hyperventilation by:

- [x] controlling the rate and depth of breathing, breathing into a bag or speaking with a loud voice
- [ ] depending on instruments
- [ ] increasing the rate and depth of breathing to eliminate harmful carbon dioxide
- [ ] the use of drugs stabilizing blood pressure

222. 8,259 040 02 01 02 Respiratory and circulatory systems

You can overcome hyperventilation by breathing into a plastic or paper bag. The intention is:

- [x] to raise the level of CO2 in the blood as fast as possible
- [ ] to prevent you from exhaling too much oxygen
- [ ] to increase the amount of nitrogen in the lung
- [ ] to reduce blood pressure

223. 8,363 040 02 01 02 Respiratory and circulatory systems

A passenger complains about a painful inflated belly at 8.000 feet. You advise him to:
1. unbuckle and massage the belly
2. stand up and let go the gases out of the intestines
3. eat less gas forming food and avoid carbonhydrated beverages before flight in the future
4. drink a lot of water throughout the flight

- [x] 1, 2 and 3 are correct
- [ ] 2, 3 and 4 are correct
- [ ] 1 and 3 not advisable
- [ ] only 4 is correct

224. 8,364 040 02 01 02 Respiratory and circulatory systems

On ascent the gases in the digestive tract will

- [x] expand
- [ ] stay the same
- [ ] shrink
- [ ] be absorbed by tissues and blood

225. 8,368 040 02 01 02 Respiratory and circulatory systems

Pain in the middle ear during descent may be eased by:

- [x] leveling off and possibly climbing
- [ ] blocking the effected ear with the palm of your hand
- [ ] increasing the rate of descent
- [ ] using an oxygen mask

226. 8,370 040 02 01 02 Respiratory and circulatory systems

The occurrence of pain in the joints (bends) during decompression can be explained by the principle that:

- [x] the quantity of a gas dissolved in a fluid is proportional to the pressure of that gas above the fluid (Henry's Law)
- [ ] a volume of gas is inversely proportional to the pressure of this gas at constant temperature (Boyle's law)
- [ ] the total pressure of a mixture of gases is equal to the sum of the partial pressures of the separate gases (Dalton's Law)
- [ ] the molecules of a gas will move from an area of higher concentration or partial pressure to an area of lower concentration or partial pressure (law of diffusion)

227. 8,372 040 02 01 02 Respiratory and circulatory systems

Pain in the joints caused by gas bubbles following a decompression is called:

- [x] bends
- [ ] chokes
- [ ] creeps
- [ ] leans

228. 8,373 040 02 01 02 Respiratory and circulatory systems

Which symptom does not belong to the following list:

- [x] leans
- [ ] bends
- [ ] chokes
- [ ] creeps

229. 8,374 040 02 01 02 Respiratory and circulatory systems

The symptoms caused by gas bubbles under the skin following a decompression are called:

- [x] creeps
- [ ] bends
- [ ] chokes
- [ ] leans

230. 8,375 040 02 01 02 Respiratory and circulatory systems

Symptoms caused by gas bubbles in the lungs, following a decompression are called:

- [x] chokes
- [ ] bends
- [ ] creeps
- [ ] leans

231. 8,376 040 02 01 02 Respiratory and circulatory systems

Some hours after a rapid decompression at FL 300 you experience pain in the joints. Which of following answers is correct?

- [x] You should ask for medical advice (flight surgeon) since this is a symptom of decompression sickness.
- [ ] This symptom indicates decompression sickness and will disappear when you take some exercise.
- [ ] This phenomenon is treated by physiotherapy.
- [ ] This phenomenon is treated by breathing 100% nitrogen.

232. 8,377 040 02 01 02 Respiratory and circulatory systems

Tolerance to decompression sickness is decreased by:
1. SCUBA-Diving
2. Obesity
3. Age
4. Body height

- [x] 1, 2 and 3 are correct
- [ ] 2 and 4 are correct
- [ ] 1, 3 and 4 are correct
- [ ] only 4 is correct

233. 8,378 040 02 01 02 Respiratory and circulatory systems

Decompression symptoms are caused by:

- [x] dissolved gases from tissues and fluids of the body
- [ ] low carbon dioxide pressure of inhaled air
- [ ] low oxygen pressure of inhaled air
- [ ] release of locked gases from joints

234. 8,386 040 02 01 02 Respiratory and circulatory systems

In the event of rapid decompression the first action for the flight deck crew is:

- [x] don oxygen masks and ensure oxygen flow
- [ ] descent to the higher of 10000 ft or MSA
- [ ] transmit mayday call
- [ ] carry out check for structural damage

235. 8,389 040 02 01 02 Respiratory and circulatory systems

After a rapid decompression at an altitude of 30.000 FT the first action of the pilot shall be:

- [x] maintaining aircraft control and preventing hypoxia (use of oxygen mask)
- [ ] informing ATC
- [ ] informing the cabin crew
- [ ] preventing panic of the passengers

236. 8,390 040 02 01 02 Respiratory and circulatory systems

The following actions are appropriate when faced with symptoms of decompression sickness:
1. climb to higher level
2. descent to the higher of 10000 ft or MSA and land as soon as possible
3. breathe 100 % oxygen
4. get medical advice about recompression after landing

- [x] 2, 3 and 4 are correct
- [ ] 1, 2 and 3 are correct
- [ ] 1 and 4 are correct
- [ ] 1 and 3 are correct

237. 8,393 040 02 01 02 Respiratory and circulatory systems

Decompression sickness can be prevented by:
1. avoiding cabin altitudes above 18 000 FT
2. maintaining cabin pressure below 8 000FT when flying at high altitudes
3. performing physical exercises before and during the flight
4. breathing 100 % oxygen for 30 min prior and during the flight

- [x] 1, 2 and 4 are correct
- [ ] 1, 2 and 3 are correct
- [ ] 2 and 3 are correct, 4 is false
- [ ] only 3 is correct

238. 8,395 040 02 01 02 Respiratory and circulatory systems

What is the TUC at 20 000 FT?

- [x] about 30 minutes
- [ ] 1 to 2 minutes
- [ ] 1to 2 hours
- [ ] 5 to 10 minutes

239. 8,396 040 02 01 02 Respiratory and circulatory systems

Following a rapid decompression at 30.000 feet, the time of useful consciousness would be about:

- [x] 1 to 2 minutes
- [ ] 3 to 5 minutes
- [ ] 5 to 10 minutes
- [ ] 10 to 12 minutes

240. 8,397 040 02 01 02 Respiratory and circulatory systems

After a rapid decompression at 35 000 feet, the time of useful consciousness is about:

- [x] 30 to 60 seconds
- [ ] 15 seconds or less
- [ ] 5 minutes.
- [ ] 10 minutes.

241. 8,399 040 02 01 02 Respiratory and circulatory systems

After SCUBA diving (more than 30 feet of depth) you have to wait a period of time before flying again. This period is at least:

- [x] 24 hours
- [ ] 6 hours
- [ ] 12 hours
- [ ] 48 hours

242. 8,400 040 02 01 02 Respiratory and circulatory systems

Flying immediately after SCUBA diving involves the risk of getting:

- [x] decompression sickness without having a decompression
- [ ] hyperventilation
- [ ] hypoxia
- [ ] stress

243. 8,454 040 02 01 02 Respiratory and circulatory systems

If someone hyperventilates due to stress his blood will get:

- [x] more alkaline
- [ ] less satured with oxygen
- [ ] more satured with carbon dioxide
- [ ] more acid

244. 8,457 040 02 01 02 Respiratory and circulatory systems

Which phenomenon is common to hypoxia and hyperventilation?

- [x] Tingling sensations in arms or legs.
- [ ] Cyanosis (blueing of lips and finger-nails).
- [ ] Severe headache.
- [ ] Euphoria.

245. 8,460 040 02 01 02 Respiratory and circulatory systems

1. Euphoria can be a symptom of hypoxia.
2. Someone in an euphoric condition is more prone to error.

- [x] 1 and 2 are both correct
- [ ] 1 is correct, 2 is not correct
- [ ] 1 is not correct, 2 is correct
- [ ] 1 and 2 are both not correct

246. 2,648 040 02 01 03 High altitude environment

The ozone-layer is situated in the

- [x] stratosphere
- [ ] troposphere
- [ ] thermosphere
- [ ] ionosphere

247. 6,891 040 02 01 03 High altitude environment

With regard to the humidity of air in current in a pressurized cabin, we know that it :
-1 : varies between 40 and 60%
-2 : varies between 5 and 15%
-3 : may cause dehydration effecting the performance of the crew
-4 : has no special effects on crew members

- [x] 2,3
- [ ] 1,3
- [ ] 2,3,4
- [ ] 1,4

248. 6,941 040 02 01 03 High altitude environment

Which of the following statements are correct ?
-1: Modern aircraft allow for 50 - 60% relative humidity in the cabin air under any conditions of flight, which is satisfactory for the body
-2: Thirst is a belated symptom of dehydration
-3: Dehydration may lead to clinical manifestations such as dizziness and fatigue
-4: Drinking excessive quantities of water must be avoided since resistance to periods of low hydration will otherwise be lost

- [x] 2,3
- [ ] 2,3,4
- [ ] 1,2,4
- [ ] 1,4

249. 6,947 040 02 02 00 Man and Environment: the sensory system

Which of the following statements is correct ?

- [x] 70% of information processed by man enters via the visual channel
- [ ] Hearing is the sense which collects most information in man
- [ ] 40% of information processed by man enters via the visual channel
- [ ] The kinesthetic channel provides the most important information for flying

250. 2,707 040 02 02 01 Central and peripheral nervous system

Once we have constructed a mental model we tend

- [x] to give undue weight to information that confirms the model
- [ ] to give undue weight to information that contradicts the model
- [ ] to give equal weight to contradicting and confirming information
- [ ] to alter that model unnecessarily frequently

251. 8,218 040 02 02 01 Central and peripheral nervous system

The rate and depth of breathing is primary regulated by the concentration of:

- [x] carbon dioxide in the blood
- [ ] nitrogen in the air
- [ ] water vapour in the alveoli
- [ ] oxygen in the cells

252. 8,263 040 02 02 01 Central and peripheral nervous system

Rising the perceptual threshold of a sensory organ means:

- [x] a lesser sensitivity
- [ ] a greater sensitivity
- [ ] a greater selectivity
- [ ] a lesser selectivity

253. 8,267 040 02 02 01 Central and peripheral nervous system

Subcutaneous pressure receptors are stimulated by:

- [x] the pressure created on the corresponding body parts when sitting, standing or lying down
- [ ] a touch on the skin indicating the true vertical
- [ ] environmental stressors
- [ ] the condition of the body itself

254. 8,268 040 02 02 01 Central and peripheral nervous system

The kinesthetic sense does not orient an individual to his surroundings, but informs him of

- [x] the relative motion and relative position of his body parts
- [ ] a touch on the skin
- [ ] our surroundings
- [ ] the condition in the body itself

255. 8,269 040 02 02 01 Central and peripheral nervous system

A stereotype and involuntary reaction of the organism on stimulation of receptors is called:

- [x] reflex
- [ ] data processing
- [ ] control system
- [ ] change of stimulation level

256. 424 040 02 02 02 Vision

What should a pilot do to keep his night vision (scotopic vision)?

- [x] Not smoke before start and during flight and avoid flash-blindness
- [ ] Avoid food containing high amounts of vitamin A
- [ ] Wait at least 60 minutes to night-adapt before he takes off
- [ ] Select meals with high contents of vitamin B and C

257. 425 040 02 02 02 Vision

Why should a pilot turn his attention to the instruments when approaching on a snowed up, foggy or cloudy winterday? Because

- [x] perception of distance and speed is difficult in an environment of low contrast
- [ ] his attention will be distracted automatically under these conditions
- [ ] "the danger of a " greying out" will make it impossible to determine the height above the terrain"
- [ ] pressure differences can cause the altimeter to give wrong information

258. 428 040 02 02 02 Vision

illuminated anti-collision lights in IMC

- [x] can cause disorientation
- [ ] can cause colour-illusions
- [ ] will improve the pilots depth perception
- [ ] will effect the pilots binocular vision

259. 429 040 02 02 02 Vision

A shining light is fading out (i. e. when flying into fog, dust or haze). What kind of sensation could the pilot get?

- [x] The source of light moves away from him
- [ ] The source of light stands still
- [ ] The source of light is approaching him with increasing speed
- [ ] The light source will make the pilot believe, that he is climbing

260. 430 040 02 02 02 Vision

To prevent the " autokinetic phenomena" , the following can be done:

- [x] look out for additional references inside and/or outside the cockpit using peripheral vision also
- [ ] fixate the source of light, first with one eye, then with the other
- [ ] look sideways to the source of light for better fixation
- [ ] turn down cabin light and shake head simultaneously

261. 431 040 02 02 02 Vision

Autokinesis is

- [x] the apparent movement of a static single light when stared at for a relatively long period of time in the dark
- [ ] the phenomenon of spinning lights after the abuse of alcohol
- [ ] the change in diameter of the pupil, when looking in the dark
- [ ] the automatical adjustment of the crystalline lens to objects situated at different distances

262. 434 040 02 02 02 Vision

The time for dark adaptation is

- [x] 30 min
- [ ] 10 sec
- [ ] 1/10 sec
- [ ] 10 min

263. 439 040 02 02 02 Vision

Sunglasses with variable filtration (phototrope glasses)

- [x] can have disadvantages when used in the cockpit due to their dependence on ultraviolet light which is screened by the cockpit glass
- [ ] are generally forbidden for pilots
- [ ] are ideal, as long as there are no polarisation effects
- [ ] are advantageous for pilots

264. 441 040 02 02 02 Vision

What misjudgement may occur if an airplane is flying into fog, snow or haze?

- [x] Objects seem to be farther away than in reality
- [ ] Objects will appear closer than they really are
- [ ] Objects will appear bigger in size than in reality
- [ ] Objects seem to move slower than in reality

265. 442 040 02 02 02 Vision

Depth perception when objects are close (< 1 m) is achieved through

- [x] seeing with two eyes (binocular vision)
- [ ] good visibility only
- [ ] visual memory only
- [ ] "the " blind spot" at the retina"

266. 443 040 02 02 02 Vision

Adaptation is

- [x] the adjustment of the eyes to high or low levels of illumination
- [ ] the change of the diameter of the pupil
- [ ] the reflection of the light at the cornea
- [ ] the adjustment of the crystalline lens to focus light on the retina

267. 444 040 02 02 02 Vision

The time required for complete adaptation is

- [x] for high levels of illumination 10 sec and for full dark adaptation 30 min
- [ ] for high levels of illumination 10 minutes and for low levels of illumination 30 minutes
- [ ] for day and night: 30 min
- [ ] for night 10 sec and for day 30 min

268. 445 040 02 02 02 Vision

The requirement of good sunglasses is to

- [x] absorb enough visible light to eliminate glare without decreasing visual acuity, absorb UV and IR radiation and absorb all colors equally
- [ ] fit to the pilots individual taste
- [ ] eliminate distortion in aircraft windshields
- [ ] increase the time for dark adaptation

269. 446 040 02 02 02 Vision

Why does a deficiency in vitamin A cause night-blindness?

- [x] Vitamin A is essential to the regeneration of visual purple
- [ ] Accomodation is destroyed
- [ ] Vitamin A deficiency interrupts the oxygen supply to the photosensitive cells
- [ ] The transfer of light stimulus from the rods to a nerve impulse depends on vitamin A

270. 447 040 02 02 02 Vision

Scanning at night should be performed by:

- [x] slight eye movements to the side of the object
- [ ] scanning with one eye open
- [ ] concentrated fixation on an object (image must fall on the fovea centralis)
- [ ] avoiding food containing Vitamin A

271. 450 040 02 02 02 Vision

Flickering light when reflected from spinning rotor blades

- [x] can cause spatial disorientation and/or nausea, when looked at for a longer period of time
- [ ] can be neglected
- [ ] can be avoided when the strobe-lights are switched on
- [ ] should be avoided, because it may destroy the optical nerve

272. 457 040 02 02 02 Vision

What impression do you have when outside references are fading away (e.g. fog, darkness, snow and vapor)?

- [x] It is difficult to determine the size and speed of objects
- [ ] Objects seem to be closer than in reality
- [ ] Objects seem to be much bigger than in reality
- [ ] There is no difference compared with flying on a clear and sunny day

273. 458 040 02 02 02 Vision

Hypoxia will effect night vision

- [x] at 5000 FT
- [ ] less than day vision
- [ ] and causes the autokinetic phenomena
- [ ] and causes hyperventilation

274. 462 040 02 02 02 Vision

What does not impair the function of the photosensitive cells?

- [x] Fast speed
- [ ] Oxygen deficiency
- [ ] Acceleration
- [ ] Toxic influence (alcohol, nicotine, medication)

275. 463 040 02 02 02 Vision

The fovea centralis is

- [x] the area of best day vision and no night vision at all
- [ ] the area of the blind spot (optic disc)
- [ ] where the optic nerves come together with the pupil
- [ ] the area of best day vision and best night vision

276. 466 040 02 02 02 Vision

The retina of the eye

- [x] is the light-sensitive inner lining of the eye containing the photoreceptors essential for vision
- [ ] filters the UV-light
- [ ] is the muscle, changing the size of the crystalline lens
- [ ] only regulates the light that falls into the eye

277. 484 040 02 02 02 Vision

Vibrations can cause blurred vision.
This is due to tuned resonance oscillations of the:

- [x] eyeballs
- [ ] optic nerve
- [ ] cristalline lens
- [ ] photosensitive cells

278. 518 040 02 02 02 Vision

Vitamin A and possibly vitamins B and C are chemical factors and essential to good night vision:
1. Vitamin deficiencies may decrease night vision performance
2. An excess intake of vitamin A will improve night vision performance significantly
3. Pilots should be carefully concerned to take a balaced diet containing sufficient vitamin A
4. Vitamin deficiencies may decrease visual acuity in photopic vision but not in scotopic vision

- [x] 1 and 3 are correct, 2 and 4 are false
- [ ] 1, 2, 3 and 4 are correct
- [ ] Only 4 is false
- [ ] 1 and 3 are false, 2 and 4 are correct

279. 2,629 040 02 02 02 Vision

When flying at night the first sense to be affected by a slight degree of hypoxia is the

- [x] vision
- [ ] cochlea
- [ ] sense of balance
- [ ] proprioceptive sensitivity

280. 2,672 040 02 02 02 Vision

The part(s) of the eye responsible for night vision

- [x] are the rods
- [ ] are the cones
- [ ] are rods and cones
- [ ] is the cornea

281. 2,673 040 02 02 02 Vision

The fovea

- [x] is an area in which cones predominate
- [ ] is sensitive to very low intensities of light
- [ ] is an area in which rods predominate
- [ ] is the area responsible for night vision

282. 2,674 040 02 02 02 Vision

When the optical image forms in front of the retina; we are talking about

- [x] myopia
- [ ] hypermetropia
- [ ] presbyopia
- [ ] astigmatism

283. 6,883 040 02 02 02 Vision

Which of the following statement(s) is/are correct ?
- 1: The retina has rods on its peripheral zone and cones on its central zone
- 2: The retina has cones and the crystalline lens has rods
- 3: The rods allow for night-vision
- 4: The cones are located on the peripheral zone of the retina

- [x] 1,3
- [ ] 1
- [ ] 2,3
- [ ] 4

284. 6,884 040 02 02 02 Vision

In order to get colour vision, it is necessary :
-1 : for there to be considerable amount of light (ambient luminosity)
-2 : at night to look at the point to be observed at an angle of 15°
-3 : to allow the eye a period of time to get used to the light
-4 : to avoid white light

- [x] 1
- [ ] 1,2,3
- [ ] 2,4
- [ ] 3

285. 6,885 040 02 02 02 Vision

The retina allows for the acquisition of colours as a result of the:

- [x] cones located in its central part
- [ ] rods located in its central part
- [ ] crystalline lens
- [ ] rods located in its peripheral zone

286. 6,887 040 02 02 02 Vision

The phenomenon of accommodation, which enables a clear image to be obtained, is accomplished by which of the following ?

- [x] The crystalline lens
- [ ] The rods
- [ ] The cones
- [ ] The retina

287. 6,888 040 02 02 02 Vision

We know that, in the mechanism of sight, the retina allows for :

- [x] the acquisition of the visual signal and its coding into physiological data
- [ ] the acquisition of the visual signal and the accommodation process
- [ ] binocular vision
- [ ] the analysis of visual signals

288. 6,889 040 02 02 02 Vision

We know that transverse accelerations (Gy)
- 1 : are above all active in turns and pull-outs
- 2 : are present during take-off and landing
- 3 : are rare during routine flights
- 4 : often lead to loss of consciousness

- [x] 3
- [ ] 1,4
- [ ] 2,3
- [ ] 1,2,3

289. 6,925 040 02 02 02 Vision

Rods (scotopic visual cells) allow for :

☒ good night-vision after adaptation to darkness (30 min)

☐ good, virtually instantaneous night-vision (scotopic vision)

☐ precise vision of contours and colours

☐ red vision, both during the day and at night

290. 6,928 040 02 02 02 Vision

To optimise one's night-vision performance, it is necessary :
- 1 : to spend some time getting adapted to low levels of illumination
- 2 : to increase the instrument panel lighting by reducing the cockpit lighting
- 3 : not to focus on the point to be observed
- 4 : to avoid blinding

☒ 1,3,4

☐ 1,2,4

☐ 2,3,4

☐ 2

291. 6,929 040 02 02 02 Vision

Visual perception of depth at close to medium distance is primarily due to

☒ binocular vision

☐ interactions between cones and rods

☐ peripheral vision

☐ the high sensitivity of the retina

292. 6,946 040 02 02 02 Vision

With regard to central vision, which of the following statements are correct ?
-1: It is due to the functioning of rods
-2: It enables details, colours and movement to be seen
-3: Its very active both during the day and at night
-4: It represents a zone where about 150.000 cones per mm are located to give high resolution capacity

☒ 2,4

☐ 1,2,4

☐ 2,3,4

☐ 1,3

293. 6,961 040 02 02 02 Vision

The ability of the human eye to read alphanumeric information (piercing vision):

- [x] is limited to the foveal area of the retina
- [ ] is limited to daytime using the rod cells
- [ ] is almost equally shared by the entire retina
- [ ] is governed by peripheral vision over an area of approximately 20 degrees of angle

294. 8,280 040 02 02 02 Vision

The amount of light which strikes the retina is controlled by:

- [x] the pupil
- [ ] the ciliary body
- [ ] the cornea
- [ ] the lens

295. 8,281 040 02 02 02 Vision

When focussing on near objects:

- [x] the shape of lens gets more spherical
- [ ] the shape of lens gets flatter
- [ ] the cornea gets smaller
- [ ] the pupil gets larger

296. 8,282 040 02 02 02 Vision

The ability of the lens to change its shape is called:

- [x] accomodation
- [ ] binocular vision
- [ ] depth perception
- [ ] adaptation

297. 8,284 040 02 02 02 Vision

The mechanism of accomodation is caused by:

- [x] the functioning of the ciliary muscle aroud the lens
- [ ] the elasticity of the optic nerves
- [ ] the functioning of the muscles of the eye
- [ ] the diameter of the pupil

298. 8,292 040 02 02 02 Vision

Presbyopia is:

- [x] far sightedness linked with age
- [ ] short sightedness
- [ ] myopia
- [ ] high intraocular pressure

299. 8,296 040 02 02 02 Vision

Glaucoma
1. can lead to total blindness
2. can lead to undetected reduction of the visual field
3. reduces visual acuity in its final stage

- [x] 1, 2 and 3 are correct
- [ ] 1 and 3 are correct, 2 is false
- [ ] 2 and 3 are correct, 1 is false
- [ ] 1 is correct, 2 and 3 are false

300. 8,297 040 02 02 02 Vision

Glaucoma is:

- [x] high intra-ocular pressure
- [ ] disturbed colour vision
- [ ] disturbed adaptation
- [ ] disturbed night vision

301. 8,298 040 02 02 02 Vision

Glaucoma is characterised by:
1. disturbed light adaptation
2. progressive narrowing of the visual field
3. insidious onset and concealed progression
4. an increase in intra-ocular pressure

- [x] 2, 3 and 4 are correct ,1 is false
- [ ] 1, 2, 3 and 4 are correct
- [ ] 1, 2 and 3 are correct, 4 is false
- [ ] 1, 3 and 4 are correct, 2 is false

302. 8,299 040 02 02 02 Vision

The peripheral vision is important for:

- [x] detecting moving objects
- [ ] visual acuity
- [ ] binocular vision
- [ ] colour vision

303. 8,300 040 02 02 02 Vision

Although we have a field of vision of more than 180° it is important during flight to use the scan ning technique, because

- [x] only in the foveal area resolution is good enough to see an object clearly
- [ ] it is tiring to look continually in the same direction
- [ ] only in the peripheral area of the retina resolution is good enough to see an object clearly
- [ ] the reduction in the field of vision with decreasing altitude is due to a lack of vitamin A

304. 8,303 040 02 02 02 Vision

The time an eye needs to adapt fully to the dark is about:

- [x] 25 - 30 minutes
- [ ] 5 minutes
- [ ] 10 minutes
- [ ] 10 seconds

305. 8,305 040 02 02 02 Vision

The photosensitive cells beeing responsible for night vision are called:

- [x] the rods
- [ ] the fovea
- [ ] the cones
- [ ] the cones and the rods

306. 8,309 040 02 02 02 Vision

When flying through a thunderstorm with lightning you can protect yourself from flashblindness by:
a) turning up the intensity of cockpit lights
b) looking inside the cockpit
c) wearing sunglasses
d) using face blinds or face curtains when installed

- [x] a), b), c) and d) are correct
- [ ] a), b) and c) are correct, d) is false
- [ ] a) and b) are correct, c) and d) are false
- [ ] c) and d) are correct, a) and b) are false

307. 8,311 040 02 02 02 Vision

Which scanning technique should be used when flying at night?

- [x] Look to the side (15 - 20 deg) of the object.
- [ ] Look directly at the object.
- [ ] Blink your eyes.
- [ ] Look with one eye.

308. 8,346 040 02 02 02 Vision

Empty field myopia is caused by:

- [x] lack of distant focal points
- [ ] atmospheric perspective
- [ ] ozone at altitude
- [ ] flying over mountainous terrain

309. 471 040 02 02 03 Hearing

Which part of the inner ear is responsible for the perception of noise?

- [x] The cochlea
- [ ] The semicircular canals
- [ ] The sacculus and utriculus
- [ ] The eustachian tube

310. 475 040 02 02 03 Hearing

Which is the audible range to human hearing?

- [x] Between 16 Hz and 20 KHz
- [ ] Between 16 MHz and 20 000MHz
- [ ] Between 16 KHz and 20 KHz
- [ ] Between 16 Hz and 20 MHz

311. 476 040 02 02 03 Hearing

Which of the following components belong to the middle ear?

- [x] Ossicles
- [ ] Otoliths
- [ ] Endolymph
- [ ] Semicircular canals

312. 2,636 040 02 02 03 Hearing

The group of tiny bones (the hammer, anvil and stirrup) are situated in

- [x] the middle ear
- [ ] the inner ear
- [ ] the outer ear
- [ ] the maxillary sinus

313. 2,644 040 02 02 03 Hearing

Any prolonged exposure to noise in excess of 90 db can end up in

- [x] noise induced hearing loss
- [ ] conductive hearing loss
- [ ] presbycusis (eefects of aging)
- [ ] a ruptured ear drum

314. 2,645 040 02 02 03 Hearing

All pilots are going to suffer some hearing deterioration as part of the process of growing old.
The effects of aging

- [x] are to cut out the high tones first
- [ ] are to cut out the low tones first
- [ ] are to cut out all tones equally
- [ ] will not affect a pilot's hearing if he is wearing ear-plugs all the time

315. 2,646 040 02 02 03 Hearing

The human ear is capable of perceiving vibrations between the frequencies

- [x] 16 - 20,000 Hz
- [ ] 0 - 16 Hz
- [ ] 20,000 - 40,000 Hz
- [ ] 30 - 15000 dB

316. 2,647 040 02 02 03 Hearing

The intensity of a sound is measured in

- [x] decibels
- [ ] hertz
- [ ] cycles per second
- [ ] curies

317. 8,314 040 02 02 03 Hearing

The Eustachian tube connects:

- [x] the middle ear and the pharynx
- [ ] the auditory duct and the inner ear
- [ ] the semi circular canals
- [ ] the middle ear and the inner ear

318. 8,320 040 02 02 03 Hearing

Excessive exposure to noise damages:

- [x] the sensitive membrane in the cochlea
- [ ] the semi circular canals
- [ ] the ossicles
- [ ] the eardrum

319. 455 040 02 02 04 Equilibrium

Tuned resonance of body parts, distressing the individual, can be caused by

- [x] vibrations from 1 to 100 Hz
- [ ] vibrations from 16 Hz to 18 kHz
- [ ] acceleration along the longitudonal body axis
- [ ] angular velocity

320. 468 040 02 02 04 Equilibrium

Which force(s) affect(s) the otoliths in the utriculus and sacculus?

- [x] Gravity and linear acceleration
- [ ] Gravity alone
- [ ] Linear acceleration and angular acceleration
- [ ] Angular acceleration

321. 469 040 02 02 04 Equilibrium

The semicircular canals of the inner ear monitor

- [x] angular accelerations
- [ ] movements with constant speeds
- [ ] relative speed and linear accelerations
- [ ] gravity

322. 472 040 02 02 04 Equilibrium

Which part of the vestibular apparatus is affected by changes in gravity and linear acceleration?

- [x] The sacculus and utriculus
- [ ] The semicircular canals
- [ ] The cochlea
- [ ] The eustachian tube

323. 473 040 02 02 04 Equilibrium

Which part of the vestibular apparatus is responsible for the impression of angular acceleration?

- [x] The semicircular canals
- [ ] The cochlea
- [ ] The sacculus and utriculus
- [ ] The eustachian tube

324. 474 040 02 02 04 Equilibrium

The vestibular organ

- [x] reacts to linear/angular acceleration and gravity
- [ ] gives the impression of hearing
- [ ] reacts to pressure changes in the middle ear
- [ ] reacts to vibrations of the cochlea

325. 480 040 02 02 04 Equilibrium

What could the crew do in order to avoid air-sickness with passengers?
1. Avoid turbulences.
2. Avoid flying through rough weather.
3. Seat passenger close to the center of gravity.
4. Give pertinent information.

- [x] 1, 2, 3 and 4 are correct
- [ ] 1, 2 and 3 are correct, 4 is false
- [ ] 3 and 4 are correct, 1 and 2 are false
- [ ] Only 4 is correct

326. 481 040 02 02 04 Equilibrium

The probability to suffer from air-sickness is higher, when

- [x] the passenger or student is afraid and/or demotivated to fly
- [ ] the passenger has taken anti-motion sickness remedies prior flight
- [ ] the student ist motivated and adapted to the specific stimuli of flying
- [ ] the student has good outside visual reference

327. 483 040 02 02 04 Equilibrium

Vibrations within the frequency band of 1/10 to 2 Hertz are a factor contributing to air-sickness, because they

- [x] upset the vestibular apparatus
- [ ] interfere with those of the own blood thus causing circulation problems
- [ ] interfere with the frequencies of the central nervous system
- [ ] make the stomach and its contents vibrating at the same frequency

328. 485 040 02 02 04 Equilibrium

What is understood by air-sickness?

- [x] A sensory conflict within the vestibular system accompanied by nausea, vomiting and fear
- [ ] An illness caused by evaporation of gases in the blood
- [ ] An illness caused by reduced air pressure
- [ ] An illness caused by an infection of the middle ear

329. 486 040 02 02 04 Equilibrium

When spinning an aircraft, the predominating type of acceleration will be

- [x] angular acceleration
- [ ] radial acceleration
- [ ] linear acceleration
- [ ] vertical acceleration

330. 507 040 02 02 04 Equilibrium

The cupula in the semicircular canal will be bent, when a rotation begins. This is because

- [x] the fluid (endolymph) within the semicircular canal lags behind the accelerated canal walls
- [ ] the cupula will stay in place and give the correct impression
- [ ] the fluid (endolymph) will preceed the accelerated canal walls
- [ ] the cupula will bend on constant angular speeds

331. 508 040 02 02 04 Equilibrium

The semicircular canals monitor

- [x] angular accelerations
- [ ] relative speed
- [ ] horizontal and vertical accelerations
- [ ] gravity

332. 510 040 02 02 04 Equilibrium

Changes in ambient pressure and accelerations during flight are important physiological factors limiting the pilots performance if not taken into consideration. Linear accelerations along the long axis of the body

- [x] change blood presssure and blood volume distribution in the body
- [ ] will have an effect on blood pressure and blood flow if the accelerative force acts across the body at right angles to the body axis
- [ ] will not stimulate any of the vestibular organs
- [ ] are of no interest when performing aerobatics

333. 2,618 040 02 02 04 Equilibrium

The semicircular canals detect

- [x] angular accelerations
- [ ] sound waves
- [ ] linear accelerations
- [ ] changes in arterial pressure

334. 2,637 040 02 02 04 Equilibrium

The semicircular canals form part of the

- [x] inner ear
- [ ] middle ear
- [ ] ear drum
- [ ] external ear

335. 2,640 040 02 02 04 Equilibrium

Angular accelerations are picked up in the inner ear by

- [x] the semicircular canals
- [ ] the tympanum
- [ ] the saccule and the utricle
- [ ] the cochlea

336. 6,875 040 02 02 04 Equilibrium

Which of the following systems are involved in the appearance of motion sickness ?
-1 : Hearing
-2 : The vestibular system
-3 : Vision
-4 The proprioceptive senses " Seat-of-the-Pants-Sense")
-5 : The gastrointestinal system

- [x] 2,3,4
- [ ] 1,2,3
- [ ] 2,3,4,5
- [ ] 1,2,5

337. 6,879 040 02 02 04 Equilibrium

Perceptual conflicts between the vestibular and visual systems are :
1 - classic and resistant when flying in IMC
2 - sensed via impressions of rotation
3 - sensed via distorted impressions of the attitude of the aircraft
4 - considerable during prolonged shallow turns under IMC

- [x] 1,2,3,4
- [ ] 2,3,4
- [ ] 1,3
- [ ] 3,4

338. 6,882 040 02 02 04 Equilibrium

The vestibular system is composed of
-1: two ventricles
-2 : a saccule
-3 : an utricle
-4 : three semicircular channels

- [x] 2,3,4
- [ ] 1,4
- [ ] 2,3
- [ ] 1,3,4

339. 8,321 040 02 02 04 Equilibrium

The inner ear is able to perceive:
1. angular acceleration
2. linear acceleration
3. noise

- [x] 1 and 2 and 3 are correct
- [ ] 2 and 3 are correct, 1 is false
- [ ] 1 and 2 are correct, 3 is false
- [ ] 2 is correct, 1 and 3 are both false

340. 8,322 040 02 02 04 Equilibrium

Angular accelerations are perceived by:

- [x] the semi circular canals
- [ ] the cochlea
- [ ] the otholits
- [ ] the receptors in the skin and the joints

341. 8,323 040 02 02 04 Equilibrium

The otoliths in the inner ear are sensitive to:

- [x] linear acceleration and gravity
- [ ] angular acceleration
- [ ] angular speed
- [ ] constant speed only

342. 415 040 02 02 05 Integration of sensory inputs

The Seat-of-the-Pants Sense is including receptors in the

- [x] muscles, tendons and joints sensitive to the position and movement of body parts
- [ ] semicircular canals
- [ ] utriculus and sacculus
- [ ] skin of the breech only

343. 419 040 02 02 05 Integration of sensory inputs

The proprioceptive senses (seat-of-the-pants sense) are important for motor coordination.
They

- [x] are completely unreliable for orientation when flying in IMC
- [ ] indicate the difference between gravity and G-forces
- [ ] allow the pilot to determine the absolute vertical at flight condition
- [ ] are important senses for flight training in IMC

344. 420 040 02 02 05 Integration of sensory inputs

The so-called " Seat-of-the-Pants" sense is

- [x] not suitable for spatial orientation when outside visual references are lost
- [ ] only to be used by experienced pilots with the permission to fly in IMC
- [ ] useful for instrument and contact flight
- [ ] the only sense a pilot can rely on, when flying in IMC

345. 421 040 02 02 05 Integration of sensory inputs

Sensory input to the " Seat-of-the-Pants" sense is given by

- [x] subcutaneous pressure receptors and kinesthetic muscle activity sensors
- [ ] blood rushing into legs
- [ ] acceleration of the stomach (nausea)
- [ ] pressure of the heart on the diaphragm

346. 423 040 02 02 05 Integration of sensory inputs

Orientation in flight is accomplished by
1. eyes
2. utriculus and sacculus
3. semicircular canals
4. Seat-of-the-pants-Sense

- [x] 1, 2, 3 and 4 are correct
- [ ] only 1 and 4 are correct
- [ ] 2, 3 and 4 are correct , 1 is false
- [ ] 2, 3 and 4 are false, only 1 is correct

347. 427 040 02 02 05 Integration of sensory inputs

The " Seat-of-the-Pants-Sense"

- [x] can give false inputs to body orientation when visual reference is lost
- [ ] is a natural human instinct which will always indicate the correct body position in space
- [ ] can be used, if trained, to avoid disorientation in space
- [ ] can be used as a reference for determining attitude when operating in visual and instrument meteorological conditions

348. 432 040 02 02 05 Integration of sensory inputs

A pilot is used to land on small and narrow runways only. Approaching a larger and wider runway can lead to :

- [x] "an early or high " round out" "
- [ ] a steeper than normal approach dropping low
- [ ] "a flatter than normal approach with the risk of " ducking under" "
- [ ] the risk to land short of the overrun

349. 433 040 02 02 05 Integration of sensory inputs

The impression of an apparent movement of light when stared at for a relatively long period of time in the dark is called

- [x] " "autokinesis" "
- [ ] " "white out" "
- [ ] " "oculogyral illusion" "
- [ ] " "oculografic illusion" "

350. 435 040 02 02 05 Integration of sensory inputs

Which problem may occur, when flying in an environment of low contrast (fog, snow, darkness, haze)?
Under these conditions it is:

- [x] difficult to estimate the correct speed and size of approaching objects
- [ ] impossible to detect objects
- [ ] no problem to estimate the correct speed and size of approaching objects
- [ ] improbable to get visual illusions

351. 436 040 02 02 05 Integration of sensory inputs

A pilot approaching an upslope runway

- [x] may feel that he is higher than actual. This illusion may cause him to land short.
- [ ] is performing a steeper than normal approach, landing long
- [ ] establishes a higher than normal approach speed
- [ ] establishes a slower than normal approach speed with the risk of stalling out

352. 438 040 02 02 05 Integration of sensory inputs

The area in front of a threshold descends towards the threshold.
Possible danger is:

- [x] approach is higher than normal and may result in a long landing
- [ ] to drop far below the glide path
- [ ] approach is lower than normal and may result in a short landing
- [ ] to misjudge the length of the runway

353. 448 040 02 02 05 Integration of sensory inputs

Approaches at night without visual references on the ground and no landing aids (e.g. VASIS) can make the pilot believe of beeing

- [x] "higher than actual altitude with the risk of landing short (" ducking under")"
- [ ] higher than actual altitude with the risk of overshooting
- [ ] lower than actual altitude with the risk of overshooting
- [ ] lower than actual altitude with the risk of ducking under

354. 449 040 02 02 05 Integration of sensory inputs

A pilot is used to land on wide runways only. When approaching a smaller and/or narrower runway, the pilot may feel he is at a

- [x] greater height than he actually is with the tendency to land short
- [ ] lower than actual height with the tendency to overshoot
- [ ] greater height and the impression of landing short
- [ ] lower height and the impression of landing slow

355. 452 040 02 02 05 Integration of sensory inputs

A pilot approaching a runway which is narrower than normal may feel he is at a greater height than he actually is. To compensate he may fly a

- [x] flatter than normal approach with the tendency to undershoot
- [ ] compensatory glide path and land long
- [ ] compensatory glide path and stall out
- [ ] higher than normal approach with the tendency to overshoot

356. 453 040 02 02 05 Integration of sensory inputs

The proprioceptive senses (" Seat of-the-Pants-Sense")

- [x] give wrong information, when outside visual reference is lost
- [ ] is a natural human instinct, always indicating the correct attitude
- [ ] can be used, if trained, to avoid spatial disorientation in IMC
- [ ] can neither be used for motor coordination in IMC and VMC

357. 478 040 02 02 05 Integration of sensory inputs

The most probable reason for spatial disorientation is

- [x] a poor instrument cross-check and permanently transitioning back and forth between instruments and visual references
- [ ] the lack of attention to the vertical speed indicator
- [ ] to rely on instruments when flying in and out of clouds
- [ ] to believe the attitude indicator

358. 482 040 02 02 05 Integration of sensory inputs

What should a pilot do if he has no information about the dimensions of the runway and the condition of the terrain underneath the approach? He should

- [x] make an instrument approach and be aware of the illusory effects that can be induced
- [ ] be aware that approaches over downsloping terrain will make him believe that he is higher than actual
- [ ] make a visual approach and call the tower for assistance
- [ ] be aware that approaches over water always make the pilot feel that he is lower than actual height

359. 487 040 02 02 05 Integration of sensory inputs

Flying a coordinated level turn will

- [x] make the body`s pressure receptors feel an increased pressure along the body`s vertical axis
- [ ] first give the impression of climb , then the impression of descent
- [ ] make the blood being pooled in the head
- [ ] make the seat-of-the-pants sense feel a decreased pressure along the body`s vertical axis

360. 488 040 02 02 05 Integration of sensory inputs

Being pressed into the seat can cause illusions and/or false reactions in a pilot lacking visual contact to the ground, because this sensation

- [x] corresponds with the sensation a pilot gets when starting a climb or performing a level turn
- [ ] corresponds with the sensation a pilots gets, when flying straight and level or starting a descent
- [ ] makes the pilot to pull up the nose to compensate for level flight
- [ ] "will not stimulate the " seat-of-the-pants" sense"

361. 489 040 02 02 05 Integration of sensory inputs

Which sensations does a pilot get, when he is rolling out of a coordinated level turn?

- [x] Descending and turning into the opposite direction
- [ ] Flying straight and level
- [ ] Climbing
- [ ] Turning into the original direction

362. 490 040 02 02 05 Integration of sensory inputs

How can a pilot prevent " pilots-vertigo" ?

- [x] Avoid steep turns and abrupt flight maneouvers and maintain an effective instrument cross check.
- [ ] Practise an extremely fast scanning technique using off-center vision.
- [ ] Use the autopilot and disregard monitoring the instruments.
- [ ] Maintain orientation on outside visual references as long as possible and rely upon the senses of balance..

363. 491 040 02 02 05 Integration of sensory inputs

How can a pilot overcome a vertigo, encountered during a real or simulated instrument flight?
1. Establish and maintain an effective instrument cross-check.
2. Always believe the instruments; never trust your sense of feeling.
3. Ignore arising illusions.
4. Move the head sidewards and back and forth to " shake-off" illusions.

- [x] 1, 2 and 3 are correct
- [ ] 1and 2 are correct, 3 and 4 are false
- [ ] Only 4 is correct
- [ ] 1, 2, 3 and 4 are correct

364. 492 040 02 02 05 Integration of sensory inputs

Dizziness and tumbling sensations, when making head movements in a tight turn, are symptoms of

- [x] " "Pilot`s vertigo" "
- [ ] " "Nystagmus" "
- [ ] " "Flicker-vertigo" "
- [ ] " "Oculogravic illusion" "

365. 493 040 02 02 05 Integration of sensory inputs

"Pilot's vertigo"

- [x] is the condition of dizziness and/or tumbling sensation caused by contradictory impulses to the central nervous system (CNS)
- [ ] is the sensation to keep a rotation after completing a turn
- [ ] is the sensation of climbing caused by a strong linear acceleration
- [ ] announces the beginning of airsickness

366. 494 040 02 02 05 Integration of sensory inputs

What can a pilot do to avoid " Flicker vertigo" when flying in the clouds?

- [x] Switch strobe-lights off
- [ ] Dim the cockpit lights to avoid reflections
- [ ] Engage the autopilot until breaking the clouds
- [ ] Fly straight and level and avoid head movements

367. 495 040 02 02 05 Integration of sensory inputs

What do you do, when you are affected by " pilot`s vertigo" ?
1. Establish and maintain an effective instrument cross-check.
2. Believe the instruments.
3. Ignore illusions.
4. Minimize head movements.

- [x] 1, 2, 3 and 4 are correct
- [ ] 1, 2 and 3 are correct, 4 is false
- [ ] 1 and 2 are correct, 3 and 4 are false
- [ ] Only 4 is false

368. 496 040 02 02 05 Integration of sensory inputs

A pilot is prone to get vertigo, as visibility is impaired (dust, smoke, snow). What is the correct action to prevent vertigo?

- [x] Depend on the instruments
- [ ] Reduce rate of breathing until all symptoms disappear, then breathe normal again
- [ ] Concentrate on the vertical speedometer
- [ ] Depend on information from the semicircular canals of the inner ear, because those are the only ones giving correct information

369. 497 040 02 02 05 Integration of sensory inputs

The risk of getting a spatial disorientation is growing, when

- [x] there is contradictory information between the instruments and the vestibular organs
- [ ] the pilot is buckled too tight to his seat and cannot sense the attitude changes of the aircraft by his Seat-of-the-Pants-Sense
- [ ] the pilot is performing an effective instrument cross-check and is ignoring illusions
- [ ] informations from the vestibular organ in the inner ear are ignored

370. 498 040 02 02 05 Integration of sensory inputs

Vertigo is the result of

- [x] " "Coriolis-effect" "
- [ ] " "Oculogyral illusion" "
- [ ] " "Autokinetic-illusion" "
- [ ] " "Elevator illusion" "

371. 499 040 02 02 05 Integration of sensory inputs

Which flight-maneouvre will most likely induce vertigo? Turning the head while

- [x] banking
- [ ] climbing
- [ ] descending
- [ ] flying straight and level

372. 500 040 02 02 05 Integration of sensory inputs

With " vertigo" the instrument-panel seems to tumble . This is due to

- [x] the coriolis effect in the semicircular canals
- [ ] tuned resonance caused by vibration
- [ ] conflicting information between the semicircular canals and the tympanic membrane
- [ ] oxygen deficiency

373. 501 040 02 02 05 Integration of sensory inputs

"Pilot's vertigo" :

- [x] is a sensation of rotation during flight due to multiple irritation of several semicircular canals at the same time
- [ ] the impression of flying straight and level while the aircraft is spinning
- [ ] a sudden loss of visual perception during flight due to multiple irritation of the utriculus and sacculus at the same time
- [ ] the impression of climbing when banking

374. 502 040 02 02 05 Integration of sensory inputs

What is the name for the sensation of rotation occuring during flight and which is caused by multiple irritation of several semicircular canals at the same time?

- [x] " "Pilot's" Vertigo."
- [ ] Sudden incapacitation.
- [ ] " "Seat-of-the-Pants" illusions."
- [ ] Graveyard spin.

375. 503 040 02 02 05 Integration of sensory inputs

Without visual reference, what illusion could the pilot get, when he is stopping the rotation to recover from a spin? He will get the illusion of

- [x] spinning into the opposite direction
- [ ] spinning into the same direction
- [ ] straight and level flight
- [ ] climbing and turning into the original direction of the spin

376. 504 040 02 02 05 Integration of sensory inputs

Starting a coordinated level turn can make the pilot believe to

- [x] climb
- [ ] descent
- [ ] turn into the opposite direction
- [ ] increase the rate of turn into the same direction

377. 505 040 02 02 05 Integration of sensory inputs

When accelerating forward the otoliths in the utriculus/sacculus will

- [x] give the illusion of climbing (body tilting backwards, nose of the a/c going up)
- [ ] give the illusion of banking
- [ ] give the illusion of straight and level flight
- [ ] give the illusion of descending (body tilting downwards, or forwards, nose of the airplane going down)

378. 506 040 02 02 05 Integration of sensory inputs

A pilot, accelerating or decelerating in level flight may get:

- [x] the illusion of climbing or descending
- [ ] the feeling of rotation
- [ ] the illusion to turn
- [ ] the impression of stationary objects moving to the right or left

379. 2,628 040 02 02 05 Integration of sensory inputs

To prevent vertigo in flight we should

- [x] not move the head suddenly while we are turning
- [ ] look towards the sides when we make a turn
- [ ] breath deeply but control the respiratory frequency
- [ ] keep breathing normally

380. 2,641 040 02 02 05 Integration of sensory inputs

When stopping the rotation of a spin we have the sensation

- [x] that we are starting a spin into the opposite direction
- [ ] of turning in the same direction
- [ ] of the sharp dipping of the nose of the aircraft
- [ ] of the immediate stabilization of the aircraft

381. 2,642 040 02 02 05 Integration of sensory inputs

When accelerating in level flight we could experience the sensation of a

- [x] climb
- [ ] descent
- [ ] turn
- [ ] spin

382. 3,536 040 02 02 05 Integration of sensory inputs

During flight in IMC, the most reliable sense which should be used to overcome illusions is the:

- [x] visual sense, interpreting the attitude indicator
- [ ] " "Seat-of-the-pants-Sense" "
- [ ] vestibular sense
- [ ] visual sense by looking outside

383. 3,537 040 02 02 05 Integration of sensory inputs

Spatial disorientation will be most likely to occur during flight:

- [x] if the brain receives conflicting informations and the pilot does not believe the instruments
- [ ] when flying in and out of clouds and the pilot maintains good instrument cross check
- [ ] when flying in light rain below the ceiling
- [ ] when flying in bright sunlight above a cloud layer

384. 6,880 040 02 02 05 Integration of sensory inputs

Which of the following illusions are brought about by conflicts between the visual system and the vestibular system ?
-1: Illusions concerning the attitude of the aircraft
-2: Autokinetic illusion (fixed point viewed as moving)
-3: Illusions when estimating the size and distance of objects
-4 : Illusions of rotation

- [x] 1,4
- [ ] 2,3,4
- [ ] 2
- [ ] 3,4

385. 6,939 040 02 02 05 Integration of sensory inputs

Autokinetic illusion is:

- [x] an illusion in which a stationary point of light, if stared at for several seconds in the dark, may - without a frame of reference - appear to move
- [ ] the sensation during a radial acceleration of seeing a fixed reference point moving into the opposite direction of the acceleration
- [ ] a conflict between the visual system and bodily sensations
- [ ] poor interpretation of the surrounding world

386. 6,945 040 02 02 05 Integration of sensory inputs

With regard to illusions due to perceptive conflicts, it may be said that they:

- [x] are mainly due to a sensory conflict concerning perception of the vertical and the horizontal between the vestibular and the visual system
- [ ] originate from a conflict between instrument readings and external visual perceptions
- [ ] are caused by the absence of internal visual cues exclusively
- [ ] are caused by a conflictual disagreement concerning attitudinal perception between the various members of a crew

387. 8,332 040 02 02 05 Integration of sensory inputs

Visual disturbances can be caused by:
1. hyperventilation
2. hypoxia
3. hypertension
4. fatigue

- [x] 1, 2 and 4 are correct
- [ ] 1, 2, 3 and 4 are correct
- [ ] 1, 2 and 3 are correct
- [ ] 2, 3 and 4 are correct

388. 8,333 040 02 02 05 Integration of sensory inputs

Desorientation is more likely to occur when the pilot is:
1. flying in IMC
2. frequently changing between inside and outside references
3. flying from IMC into VMC
4. having a cold

- [x] 1, 2 and 4 are correct
- [ ] 1, 2 and 3 are correct
- [ ] 2, 3 and 4 are correct
- [ ] 1, 3 and 4 are correct

389. 8,336 040 02 02 05 Integration of sensory inputs

Positive linear accelleration when flying in IMC may cause a false sensation of:

- [x] pitching up
- [ ] pitching down
- [ ] apparent sideward movement of objects in the field of vision
- [ ] vertigo

390. 8,337 040 02 02 05 Integration of sensory inputs

Linear accelleration when flying straight and level in IMC may give the illusion of:

- [x] climbing
- [ ] descending
- [ ] yawing
- [ ] spinning

391. 8,343 040 02 02 05 Integration of sensory inputs

Coriolis illusion, causing spatial disorientation is the result of:

- [x] simultaneous head movements during aircraft manoeuvres
- [ ] undergoing positive G
- [ ] gazing in the direction of a flashing light
- [ ] normal deterioration of the semicircular canals with age

392. 8,344 040 02 02 05 Integration of sensory inputs

When turning in IMC , head movements should be avoided as much as possible. This is a prevention against:

- [x] coriolis illusion
- [ ] autokinesis
- [ ] oculogyral illusion
- [ ] pressure vertigo

393. 8,345 040 02 02 05 Integration of sensory inputs

A pilot, trying to pick up a fallen object from the cockpit floor during a tight turn, experiences:

- [x] coriolis illusion
- [ ] autokinetic illusion
- [ ] barotrauma
- [ ] pressure vertigo

394. 8,347 040 02 02 05 Integration of sensory inputs

When a pilot is starring at an isolated stationary light for several seconds in the dark he might get the illusion that:

- [x] the light is moving
- [ ] the size of the lightis varying
- [ ] the intensity of the light is varying
- [ ] the colour of the light is varying

395. 8,348 040 02 02 05 Integration of sensory inputs

When you stare at a single light against the dark (f.e. an isolated star) you will find the light appears to move after some time. This phenomenon is called:

- [x] autokinetic phenomenon
- [ ] black hole illusion
- [ ] coriolis illusion
- [ ] leans

396. 8,349 040 02 02 05 Integration of sensory inputs

How is haze effecting your perception?

- [x] Objects seem to be further away than in reality.
- [ ] Objects will give better contrast.
- [ ] Haze makes the eyes to focus at infinity
- [ ] Objects seem to be closer than in reality.

397. 8,350 040 02 02 05 Integration of sensory inputs

The 'Black hole' phenomenon occurs during approaches at night and over water, jungle or desert. When the pilot is lacking of visual cues other than those of the aerodrome there is an illusion of

- [x] being too high and too far away, dropping low and landing short
- [ ] being too close, landing long
- [ ] climbing
- [ ] being too low, flying a steeper approach than normal

398. 8,351 040 02 02 05 Integration of sensory inputs

You fly VFR from your home base (runway width 27 m), to an international airport (runway width 45 m). On reaching your destination there is a risk of performing a:

- [x] high approach with overshoot
- [ ] high approach with undershoot
- [ ] low approach with overshoot
- [ ] low approach with undershoot

399. 8,352 040 02 02 05 Integration of sensory inputs

You fly VFR from your home base (runway width 45 m) to a small airfield (runway width 27 m). On reaching your destination there is a risk of performing a:

- [x] low approach with undershoot
- [ ] high approach with overshoot
- [ ] high approach with undershoot
- [ ] low approach with overshoot

400. 8,353 040 02 02 05 Integration of sensory inputs

1. In case of conflicting information you can always trust your Seat- of-the-Pants-Sense.
2. In case of conflicting information between the sensory organs and the instruments you must believe the instruments.

- [x] 1 is false, 2 is correct
- [ ] 1 and 2 are correct
- [ ] 1 is correct, 2 is false
- [ ] 1 and 2 are false

401. 8,355 040 02 02 05 Integration of sensory inputs

How can spatial disorientation in IMC be avoided? By

- [x] maintaining a good instrument cross check.
- [ ] believing your body senses only.
- [ ] moving the head into the direction of the resultant vertical.
- [ ] looking outside whenever possible ignoring the attitude indicator.

402. 8,356 040 02 02 05 Integration of sensory inputs

Which procedure is recommended to prevent or overcome spatial disorientation?

- ☒ Rely entirely on the indications of the flight instruments.
- ☐ Tilt your head to the side to get better informations from the semicircular canals.
- ☐ Rely on the Seat-of-the-Pants-Sense.
- ☐ Get adapted to low levels of illumination before flying and use off-center vision all the time.

403. 8,357 040 02 02 05 Integration of sensory inputs

How can a pilot prevent spatial disorientation in flight?

- ☒ Establish and maintain a good instrument cross check.
- ☐ Always try to catch outside visual cues.
- ☐ Rely on good situational awareness believing your natural senses.
- ☐ Rely on the kinaesthetic sense.

404. 8,358 040 02 02 05 Integration of sensory inputs

If you are subjected to an illusion during night flying you should:

- ☒ continue on instruments
- ☐ dim the cockpit lighting
- ☐ scan the surroundings
- ☐ use your oxygen mask

405. 8,359 040 02 02 05 Integration of sensory inputs

If you are disorientated during night flying you must:

- ☒ relay on instruments
- ☐ look outside
- ☐ descend
- ☐ check your rate of breathing - do not breathe too fast

406. 6,893 040 02 03 00 Health and hygiene

Which of the following mechanisms regulate body temperature when expored to extreme high environmental temperatures?
-1 : Shivering
-2 : Vasoconstriction of peripheral blood vessels
-3 : Sweating
-4 : Vasodilation of peripheral blood vessels

- ☒ 3,4
- ☐ 1,3,4
- ☐ 2,3
- ☐ 1

407. 6,894 040 02 03 00 Health and hygiene

The following can be observed when the internal body temperature falls below 35°C :

- [x] shivering, will tend to cease, and be followed by the onset of apathy
- [ ] the appearance of intense shivering
- [ ] mental disorders, and even coma
- [ ] profuse sweating

408. 6,895 040 02 03 00 Health and hygiene

We can observe the following in relation to a state of hypothermia :

- [x] reasoning problems as soon as body temperature falls below 37°C
- [ ] a substantial increase in internal body temperature whereas peripheral temperature at the skin is stable
- [ ] a rapid fall in ambient temperature
- [ ] greater capacity for adaptation than in a hot atmosphere

409. 6,922 040 02 03 00 Health and hygiene

Which of the following statements are correct ?
1 Hypothermia affects physical and mental abilities.
2 Man has effective natural protection against intense cold.
3 Shivering makes it possible to combat the cold to a certain extent, but uses up a lot of energy
4 Disorders associated with hypothermia appear at a body temperature of less than 35°C

- [x] 1,3,4
- [ ] 1,2,3
- [ ] 2,4
- [ ] 2,3,4

410. 6,982 040 02 03 00 Health and hygiene

Our body takes its energy from :
1: minerals
2: protein
3: carbonhydrates
4: vitamines

- [x] 2,3
- [ ] 1,2,3,4
- [ ] 1,4
- [ ] 1,3

411. 6,983 040 02 03 00 Health and hygiene

What is meant by metabolism ?

- [x] The transformation by which energy is made available for the uses of the organism
- [ ] Information exchange
- [ ] Transfer of chemical messages
- [ ] Exchange of substances between the lung and the blood

412. 6,986 040 02 03 00 Health and hygiene

One of the waste products of the metabolic process in the cell is :

- [x] water
- [ ] protein
- [ ] sugar
- [ ] fat

413. 6,988 040 02 03 00 Health and hygiene

The body loses water via:
1. the skin and the lungs
2. the kidneys

- [x] 1 and 2 are correct
- [ ] 1 is correct and 2 is not correct
- [ ] 1 is not correct and 2 is correct
- [ ] both are false

414. 2,638 040 02 03 02 Common minor ailments

It is inadvisable to fly when suffering from a cold. The reason for this is:

- [x] pain and damage to the eardrum can result, particularly during fast descents
- [ ] gentle descents at high altitude can result in damage to the ear drum
- [ ] swollen tissue in the inner ear will prevent the air from ventilating through the tympanic membrane
- [ ] swollen tissue in the Eustachian tube will cause permanent hearing loss

415. 3,539 040 02 03 02 Common minor ailments

It is inadvisable to fly when suffering from a cold. The reason for this is:

- [x] the tissue around the nasal end of the Eustachian tube is likely to be swollen thus causing difficulty in equalising the pressure within the middle ear and the nasal/throat area. Pain and damage to the eardrum can result, particularly during fast descents
- [ ] although the change in air pressure during a climb at lower altitudes is very small, it increases rapidly at high altitudes. If the tissue in the Eustachian tube of the ear is swollen, gentle descents at high alltitude would result in damage to the ear drum
- [ ] swollen tissue in the inner ear will increase the rate of metabolic production resulting in hyperventilation
- [ ] because it will seriously affect peripheral vision

416. 6,892 040 02 03 02 Common minor ailments

The following occurs in man if the internal body temperature increases to 38°C :

- [x] impairment of physical and mental performance
- [ ] apathy
- [ ] considerable dehydration
- [ ] nothing signifiant happens at this temperature. The first clinical signs only start to appear at 39°C

417. 6,980 040 02 03 02 Common minor ailments

Exchange of gasses between the body and the environment takes place at the:

- [x] lungs
- [ ] heart
- [ ] muscles
- [ ] central nervous system

418. 8,365 040 02 03 02 Common minor ailments

Having a serious cold it is better not to fly, due to the extra risk of:
1. flatulence
2. pain in the ear during descent
3. pressure vertigo
4. pain in the nasal sinuses

- [x] 2,3 and 4 are correct
- [ ] 1 and 2 are correct
- [ ] 1,3 and 4 are correct
- [ ] 1,2 and 4 are correct

419. 8,366 040 02 03 02 Common minor ailments

Having a serious cold, you are going to fly. What can you expect:

- [x] pain in the sinuses
- [ ] bends
- [ ] chokes
- [ ] hypoxia

420. 85 040 02 03 03 Problem areas for pilots

Which of the following factors may have an influence on medical disqualification?

- [x] High and low blood pressure as well as a poor condition of the circulatory system.
- [ ] High blood pressure only.
- [ ] Blood pressure problems cannot occur in aircrew because they always can be treated by in-flight medication.
- [ ] Low blood pressure only.

421. 454 040 02 03 03 Problem areas for pilots

When assessing an individuals risk in developing coronary artery disease, the following factors may contribute:
1.obesity
2.distress
3.smoking
4.family history

- [x] 1, 2, 3 and 4 are correct
- [ ] 2 and 3 are correct, 1 and 4 are false
- [ ] Only 3 is correct, 1, 2 and 4 are false
- [ ] 1, 2 and 3 are correct, 4 is false

422. 2,753 040 02 03 03 Problem areas for pilots

Noise induced hearing loss is influenced by

- [x] the duration and intensity of a noise
- [ ] the duration of a noise but not its intensity
- [ ] the suddenness of onset of a noise
- [ ] the intensity of the noise but not its duration

423. 2,754 040 02 03 03 Problem areas for pilots

To reduce the risk of coronary artery disease, exercise should be

- [x] double the resting heart rate for at least 20 minutes, three times a week
- [ ] avoided since raising the heart rate shortens the life of the heart
- [ ] double the resting heart rate for at least an hour, five times a week
- [ ] triple the resting heart rate for 20 minutes, once a week

424. 2,755 040 02 03 03 Problem areas for pilots

Which of the following is most true?

- [x] Regular exercise is beneficial to general health, but the most efficient way to lose weight is by reducing caloric consumption
- [ ] Regular exercise is an impediment to losing weight since it increases the metabolic rate
- [ ] Regular exercise is beneficial to general health, and is the only effective way to lose weight
- [ ] Regular exercise and reduction in caloric consumption are both essential in order to lose weight

425. 6,967 040 02 03 03 Problem areas for pilots

Which of the following statements about hyperthermia is correct ?

- [x] Complete adaption to the heat in a hot country takes about a fortnight.
- [ ] Vasodilation is the only regulant which is capable of reducing body temperature.
- [ ] Evaporation is more effective when ambient humidity is high.
- [ ] Performance is not impaired by an increase in body temperature to 40°C or more.

426. 8,295 040 02 03 03 Problem areas for pilots

Visual acuity during flight at high altitudes can be affected by:
1. anaemia
2. smoking in the cockpit
3. carbon monoxide poisoning
4. hypoxia

☒ 1, 2, 3 and 4 are correct

☐ 1,2 and 3 are correct

☐ 2,3 and 4 are correct

☐ 1,3 and 4 are correct

427. 8,317 040 02 03 03 Problem areas for pilots

Conductive hearing loss can be caused by:
1. damage to the ossicles in the middle ear caused by infection or trauma
2. a damage of the auditory nerve
3. an obstruction in the auditory duct
4. a ruptured tympanic membrane

☒ 1,2,3 and 4 are correct

☐ 2,3 and 4 are correct, 1 is false

☐ 1,2 and 3 are correct, 4 is false

☐ 1,3 and 4 are correct, 2 is false

428. 8,318 040 02 03 03 Problem areas for pilots

Noise induced hearing loss (NIHL) is caused by:

☒ damage of the sensitive membrane in the cochlea due to overexposure to noise

☐ a blocked Eustachian tube

☐ pressure differences on both sides of the eardrum

☐ reduced mobility of the ossicles

429. 451 040 02 03 04 Intoxication

Alcohol, even when taken in minor quantities

☒ can make the brain cells to be more susceptible to hypoxia

☐ will stimulate the brain, making the pilot resistant to hypoxia

☐ will have no effect at all

☐ may improve the mental functions, so that the symptoms of hypoxia are much better to be identified

430. 456 040 02 03 04 Intoxication

Concerning flying and blood alcohol content the following statement is correct:

☒ no flying under the influence of alcohol

☐ flying with up to 0.05 % blood alcohol

☐ flying with up to 0.15 % blood alcohol

☐ flying with up to 0.08 % blood alcohol is safe, since driving is safe up to this limit

431. 461 040 02 03 04 Intoxication

The metabolisation of alcohol

- [x] is a question of time
- [ ] is quicker when used to it
- [ ] can be accelerated even more by coffee
- [ ] can be influenced by easy to get medication

432. 479 040 02 03 04 Intoxication

Concerning the effects of drugs and pilot´s performance

- [x] the primary and the side effects have to be considered
- [ ] the side effects only have to be considered
- [ ] medication has no influence on pilot´s performance
- [ ] only the primary effect has to be considered; side effects are negligable

433. 515 040 02 03 04 Intoxication

When drugs against sleep disorders and/or nervosity have been taken and the pilot intends to fly, attention has to be payed to

- [x] the effect they have on reaction time and perceptional awareness
- [ ] the effect they have on hearing
- [ ] the fact that there is no difference in the quality of sleep produced under the influence of those drugs compared to normal drug-free sleep
- [ ] schedule only those pilots, who show no reactions to these medications

434. 516 040 02 03 04 Intoxication

Drugs against allergies (antihistamines), when taken by an aviator can cause the following undesirable effects:
1. Drowsiness, dizziness
2. Dry mouth
3. Headaches
4. Impaired depth perception
5. Nausea

- [x] 1, 2, 3, 4 and 5 are correct
- [ ] only 3, 4 and 5 are correct
- [ ] 2, 3 and 4 are correct
- [ ] only 1 is correct

435. 517 040 02 03 04 Intoxication

The consumption of medicines or other substances may have consequences on qualification to fly for the following reasons:
1. The desease requiring a treatment may be cause for disqualification.
2. Flight conditions may modify the reactions of the body to a treatment.
3. Drugs may cause adverse side effects impairing flight safety.
4. The effects of medicine do not necessarily immediately disappear when the treatment is stopped.

- [x] 1, 2, 3 and 4 are correct
- [ ] 1, 2 and 3 are correct, 4 is false
- [ ] 3 and 4 are false, 1 and 2 are correct.
- [ ] Only 2 is false.

436. 519 040 02 03 04 Intoxication

Cigarette smoking has particular significance to the flyer, because there are long-term and short-term harmful effects. From cigarette smoking the pilot can get:

- [x] a mild carbon monoxide poisoning decreasing the pilot´s tolerance to hypoxia
- [ ] a mild carbon dioxide poisoning increasing the pilot's tolerance to hypoxia
- [ ] a mild carbon monoxide poisoning increasing the pilot´s tolerance to hypoxia
- [ ] a suppressed desire to eat and drink

437. 520 040 02 03 04 Intoxication

A pilot who smokes will loose some of his capacity to transport oxygen combined with hemoglobin.
Which percentage of his total oxygen transportation capacity would he give away when he smokes one pack of cigarettes a day?

- [x] 5 - 8%
- [ ] 0.5 - 2%
- [ ] 12 - 18%
- [ ] 20 - 25%

438. 521 040 02 03 04 Intoxication

Flying at pressure altitude of 10 000 ft, a pilot, being a moderate to heavy smoker, has an oxygen content in the blood equal to an altitude

- [x] above 10 000 FT
- [ ] of 10 000 FT
- [ ] lower than 10 000 FT
- [ ] of 15000 FT when breathing 100% oxygen

439. 522 040 02 03 04 Intoxication

Which of the following applies when alcohol has been consumed?

- [x] Even after the consumption of small amounts of alcohol, normal cautionary attitudes may be lost
- [ ] Drinking coffee at the same time will increase the elimination rate of alcohol
- [ ] Small amounts of alcohol increase visual performance
- [ ] Acute effects of alcohol cease immediately when 100% oxygen is taken

440. 523 040 02 03 04 Intoxication

Alcohol, when taken simultaneously with drugs, may

- [x] intensify the effects of the drugs
- [ ] compensate for side effects of drugs
- [ ] show undesired effects only during night flights
- [ ] increase the rate of alcohol elimination from the blood

441. 524 040 02 03 04 Intoxication

Alcohol metabolism (elimination rate)

- [x] is approx. 0.015% per hour and cannot be expedited
- [ ] is approx. 0.3% per hour
- [ ] depends on wether you get some sleep in between drinks
- [ ] definitely depends on the amount and composition of food which has been eaten

442. 2,612 040 02 03 04 Intoxication

Carbon monoxide, a product of incomplete combustion, is toxic because

- [x] it competes with oxygen in its union with haemoglobin
- [ ] it prevents the absorption of food from the digestive tract
- [ ] it prevents the excretion of catabolites in the kidneys
- [ ] it disturbs gaseous diffusion at the alveoli capillary membrane

443. 2,631 040 02 03 04 Intoxication

The rate of absorption of alcohol depends on many factors. However, the rate of metabolism or digestion of alcohol in the body is relatively constant. It is about

- [x] 0,01 - 0,015 mg % per hour
- [ ] 0,02 - 0,05 mg % per hour
- [ ] 0,2 - 0,25 mg % per hour
- [ ] 0,3 - 0,35 mg % per hour

444. 2,632 040 02 03 04 Intoxication

A slight lack of coordination which can make it difficult to carry out delicate and precise movements occurs when the level of alcohol in the blood is exceeding

- [x] 0.05 % blood alcohol
- [ ] 0.1 % blood alcohol
- [ ] 0.15 % blood alcohol
- [ ] 0.2 % blood alcohol

445. 2,634 040 02 03 04 Intoxication

The carcinogen (a substance with the ability to produce modifications in cells which develop a cancer) in the bronchi of the lungs is

- [x] tar
- [ ] nicotine
- [ ] carbon monoxide
- [ ] lead

446. 2,635 040 02 03 04 Intoxication

One of the substances present in the smoke of cigarettes can make it significantly more difficult for the red blood cells to transport oxygen and as a consequence contributes to hypoxia. Which substance are we referring to?

- [x] Carbon monoxide
- [ ] Carbonic anhydride
- [ ] Tar
- [ ] Carbon dioxide

447. 2,639 040 02 03 04 Intoxication

The so-called Coriolis effect (a conflict in information processing in the brain) in spatial disorientation occurs:

- [x] on stimulating several semicircular canals simultaneously
- [ ] on stimulating the saccule and the utricle of the inner ear
- [ ] on stimulating the cochlea intensely
- [ ] when no semicircular canal is stimulated

448. 3,538 040 02 03 04 Intoxication

The chemical substance responsible for addiction to tobacco is

- [x] nicotine
- [ ] carbon monoxide
- [ ] tar
- [ ] the combination of nicotine, tar and carbon monoxide

449. 3,540 040 02 03 04 Intoxication

A large number of medical preparations can be bought without a doctor´s prescription. In relation to using these preparations, which of the following is correct:

- [x] A pilot using any of these preparations should get professional advice from a flight surgeon if he intends to fly and self-medicate at the same time
- [ ] They have no side effects which would give problems to a pilot during flight
- [ ] The side effects of these types of preparations are sufficiently negligible as to be ignored by pilots
- [ ] They will cause a condition of over-arousal

450. 3,556 040 02 03 04 Intoxication

Carbon monoxide is always present in the exhaust gases of engines. If a pilot is exposed to carbon monoxide, which of the following responses is correct?

- [x] A short exposure to relatively high concentrations of carbon monoxide can seriously affect a pilot´s ability to operate an aircraft.
- [ ] Carbon monoxide is easily recognised by odour and taste.
- [ ] Carbon monoxide can only affect pilots if they are exposed to them for a long period of time.
- [ ] When exposed to carbon monoxide for a long period of time, the body will adapt to it and no adverse physical effects are experienced

451. 8,403 040 02 03 04 Intoxication

Which statement is correct regarding alcohol in the human body?

- [x] Judgement and decision making can be affected even by a small amount of alcohol.
- [ ] A small amount of alcohol increases visual acuity.
- [ ] An increase of altitude decreases the adverse effect of alcohol.
- [ ] When drinking coffee, the human body metabolizes alcohol at a faster rate than normal.

452. 8,404 040 02 03 04 Intoxication

Which statement is correct?
1. Smokers have a greater chance of suffering from coronary heart disease
2. Smoking tobacco will raise the individuals pysiological altitude during flight
3. Smokers have a greater chance of decreasing ung cancer

- [x] 1,2 and 3 are correct
- [ ] 1 and 2 are correct, 3 is false
- [ ] 1 and 3 are correct, 2 is false
- [ ] 2 and 3 are correct, 1 is false

453. 8,405 040 02 03 04 Intoxication

Smoking cigarettes reduces the capability of the blood to carry oxygen. This is because:

- [x] hemoglobin has a greater affinity for carbon monoxide than it has for oxygen
- [ ] carbon monoxide in the smoke of cigarettes assists diffusion of oxygen in the alveoli
- [ ] carbon monoxide increases the partial pressure of oxygen in the alveoli
- [ ] the smoke of one cigarette can cause an obstruction in the respiratory tract

454. 8,406 040 02 03 04 Intoxication

CO (carbon monoxide) present in the smoke of cigarettes can lead to:
1. reduction of time of usefull consciousness
2. hypoxia at a much lower altitude than normal

- [x] 1 and 2 are both correct
- [ ] 1 is correct, 2 is false
- [ ] 1 is false, 2 is correct
- [ ] 1 and 2 are both false

455. 8,409 040 02 03 04 Intoxication

Carbon monoxide in the human body can lead to:
1. loss of muscular power
2. headache
3. impaired judgement
4. pain in the joints
5. loss of consciousness

- [x] 1, 2 , 3 and 5 are correct
- [ ] 1, 2 and 4 are correct
- [ ] 2 and 3 are correct, 1 is false
- [ ] 1, 2, 3, 4 are correct

456. 8,410 040 02 03 04 Intoxication

Adverse effects of carbon monoxide increase as:

- [x] altitude increases
- [ ] altitude decreases
- [ ] air pressure increases
- [ ] relative humidity decreases

457. 4,139 040 02 03 04 Intoxication

Incapacitation is most dangerous when it is :

- [x] insinuating
- [ ] obvious
- [ ] sudden
- [ ] intense

458. 2,699 040 03 01 00 Human information processing

The human information processing system is highly efficient compared to computers because of its

- [x] flexibility
- [ ] speed
- [ ] working memory capacity
- [ ] independancy from attention

459. 8,444 040 03 01 00 Human information processing

In an abnormal situation the pilot has an apparently correct explanation for the problem. The chance that he/she now ignores or devalues other relevant information, not fitting into his/her mental picture is:

- [x] increasing
- [ ] the same, no matter if he/she has already made up his/her mind
- [ ] not applicable with old and experienced pilots
- [ ] decreasing

460. 8,447 040 03 01 00 Human information processing

Many pilots think up systems to deal with affairs so they don't have to think up every time what they have to do.

- [x] this has to be posetively appreciated for it increases consistency in action
- [ ] this is dangerous for every situation is different
- [ ] this has to be rejected for the company draws the rules and the procedures they have to comply with
- [ ] this has to be advised against for it reduces flexibility at a moment a problem has to be solved by improvisation.

461. 2,627 040 03 01 01 Attention and vigilance

The ability of detecting relevant information which is not presented in an actively monitored input channel is known as

- [x] attention
- [ ] perception
- [ ] sensation
- [ ] appreciation

462. 2,706 040 03 01 01 Attention and vigilance

The 'cocktail party effect' is

- [x] the ability to pick up relevant information unintentionally
- [ ] the ability to drink too much at social gathering
- [ ] the tendency to believe information that reinforces our mental model of the world
- [ ] the tendency not to perceive relevant information

463. 2,710 040 03 01 01 Attention and vigilance

Which of the following tasks are possible to do simultaneously without mutual interference?

- [x] Maintain manual straight and level flight and solve a problem.
- [ ] Listen attentively and solve a problem.
- [ ] Talk and rehearse a frequency in working memory.
- [ ] Read and listen attentively.

464. 2,758 040 03 01 01 Attention and vigilance

A selective attentional mechanism is required

- [x] because of the limited capacity of the central decision maker and working memory
- [ ] because the capacity of the long term memory is limited
- [ ] because of the limitations of the sense organs
- [ ] because of limitations in our store of motor programmes

465. 3,405 040 03 01 01 Attention and vigilance

Concentration is essential for pilots.

- [x] However, capacity of concentration is limited
- [ ] It only takes a little willpower to increase one's capacity of concentration without limits
- [ ] Vigilance is all that is required to be attentive
- [ ] All intellectual processes, including very routined ones, make demands on resources and therefore on one's concentration

466. 3,478 040 03 01 01 Attention and vigilance

According to Wicken's theory, the human brain has:

- [x] different reservoirs of resources depending on whether one is in the information-gathering, information-processing or action phase
- [ ] unlimited information-processing resources
- [ ] cognitive resources which are centered on action
- [ ] processing capabilities which function at peak level when different tasks call for the same resources

467. 3,479 040 03 01 01 Attention and vigilance

The available cognitive resources of the human brain:

- [x] are limited and make it impossible to perform two attentional tasks at the same time
- [ ] are limited but make it possible to easily perform several tasks at the same time
- [ ] are virtually unlimited
- [ ] allow for twin-tasks operation without any loss of effectiveness

468. 3,481 040 03 01 01 Attention and vigilance

Mental schemes correspond to:

- [x] memorised representations of the various procedures and situations which can be reactivated by the pilot at will
- [ ] the memorisation of regulatory procedures associated with a particular situation
- [ ] memorised procedures which develop and change rapidly during change-over to a new machine
- [ ] daily planning of probable dangerous situations

469. 3,485 040 03 01 01 Attention and vigilance

The acquisition of expertise comprises three stages (Anderson model):

- [x] cognitive, associative and autonomous
- [ ] cognitive, associative and knowledge
- [ ] associative, autonomous and expert
- [ ] automatic, cognitive and knowledge

470. 3,486 040 03 01 01 Attention and vigilance

A pilot can be described as being proficient, when he/she:

- [x] has automated a large part of the necessary flight deck routine operations in order to free his/her cognitive resources
- [ ] is able to reduce his/her arousal to a low level during the entire flight
- [ ] knows how to invest the maximum resources in the automation of tasks in real time
- [ ] is capable of maintaining a high level of arousal during a great bulk of the flight

471. 5,634 040 03 01 01 Attention and vigilance

Which of the following are the most favourable solutions to manage phases of reduced or low vigilance (hypovigilance)?
1. Healthy living
2. Use of amphetamines
3. Reducing the intensity of the light
4. Organising periods of rest during the flight

- [x] 1,4
- [ ] 1,2
- [ ] 1,3
- [ ] 3,4

472. 5,635 040 03 01 01 Attention and vigilance

What are main signs indicating the loss of vigilance ?
1. Decrease in sensory perception
2. Increase in selective attention
3. Sensation of muscular heaviness
4. Decrease in complacency

- [x] 1,3
- [ ] 1,4
- [ ] 2,3
- [ ] 2,4

473. 5,636 040 03 01 01 Attention and vigilance

What is " divided attention" ?

- [x] Alternative management of several matters of interest
- [ ] Ease of concentrating on a particular objective
- [ ] Difficulty of concentrating on a particular objective
- [ ] The adverse effect of motivation which leads to one's attention being dispersed

474. 5,637 040 03 01 01 Attention and vigilance

Which of the following statements concerning hypovigilance is correct ?
Hypovigilance :

- [x] may occur at any moment of the flight
- [ ] essentially occurs several minutes after the intense take-off phase
- [ ] tends to occur at the end of the mission as a result of a relaxation in the operators' attention
- [ ] only affects certain personality types

475. 5,638 040 03 01 01 Attention and vigilance

What are the main factors which bring about reduced or low vigilance (hypovigilance) ?
1. The monotony of the task
2. Tiredness,the need for sleep
3. A lack of stimulation
4. Excessive stress

- [x] 1,2,3
- [ ] 2,4
- [ ] 1,3
- [ ] 3,4

476. 5,647 040 03 01 01 Attention and vigilance

With regard to the level of automation of behaviours in the attention mechanism, we know that :

- [x] the more behaviour is automated, the less it requires conscious attention and thus the more it frees mental resources
- [ ] the more behaviour is automated, the more it requires attention and the more it frees resources
- [ ] the more behaviour is automated, the more it requires attention and the less it frees resources
- [ ] the less behaviour is automated, the less it requires attention and the more it frees resources

477. 5,648 040 03 01 01 Attention and vigilance

What are the various factors which guide attention ?
1. The level of automation of behaviour
2. Response time
3. The salience of the information
4. Expectations

- [x] 1,3,4
- [ ] 1,4
- [ ] 1,2
- [ ] 2,3,4

478. 6,854 040 03 01 01 Attention and vigilance

If a pilot has to perform two tasks requiring the allocation of cognitive resources :

- [x] the sharing of resources causes performance on each task to be reduced
- [ ] a person reaches his limits as from simultaneous tasks, and performance will then tail off
- [ ] the only way of not seeing performance tail off is to switch to knowledge-based mode for the two tasks
- [ ] the only way of not seeing performance tail off is to switch to rules-based mode for the two tasks

479. 8,443 040 03 01 01 Attention and vigilance

Check the following statements:
1. The first information received determines how subsequent information will be evaluated.
2. If one has made up one's mind, contradictory information may not get the attention it really needs.
3. With increasing stress, channelizing attention is limiting the flow of information to the central decision maker (CNS).

- [x] 1, 2 and 3 are correct
- [ ] 1and 3 are correct
- [ ] 1 and 2 are correct
- [ ] 2 and 3 are correct

480. 2,619 040 03 01 02 Perception

The first stage in the information process is

- [x] sensory stimulation
- [ ] perception
- [ ] selective attention
- [ ] the recognition of information

481. 2,709 040 03 01 02 Perception

Our mental model of the world is based

- [x] on both our past experiences and the sensory information we receive
- [ ] entirely on the sensory information we receive
- [ ] entirely on past experiences
- [ ] on both our past experiences and our motor programmes

482. 3,545 040 03 01 02 Perception

Conscious perception

- [x] is a mental process involving experience and expectations
- [ ] relies upon the development of intuition
- [ ] involves the transfer of information from the receptor to the brain only
- [ ] relates to the correct recognition of colours

483. 4,151 040 03 01 02 Perception

Which of the following provides the basis of all perceptions?

- [x] The intensity of the stimuli.
- [ ] The aural or visual significance attributed in short term memory.
- [ ] The aural or visual significance attributed in long term memory.
- [ ] The seperation of figure and background.

484. 4,152 040 03 01 02 Perception

The " gestalt laws " formulates :

- [x] basic principles governing how objects are mentally organized and perceived
- [ ] basic principles governing the relationship between stress and performance
- [ ] basic principles governing the effects of habit and experience
- [ ] basic principles regarding to the relationship between motivation and performance

485. 5,645 040 03 01 02 Perception

What is the main adverse effect of expectations in the perception mechanism ?

- [x] Expectations often guide the focus of attention towards a particular aspect, while possible alternates are neglected
- [ ] They always lead to routine errors
- [ ] The unconscious mechanism of attention leads to focus on all relevant information
- [ ] The attention area is enlarged, thus it will lead to an uncertainty in regard to necessary decisions

486. 6,877 040 03 01 02 Perception

In the absence of external reference points, the sensation that the vehicle in which you sitting is moving when it is in fact the vehicle directly alongside which is moving is called :

- [x] illusion of relative movement
- [ ] autokinetic illusion
- [ ] cognitive illusion
- [ ] somato-gravic illusion

487. 6,940 040 03 01 02 Perception

Illusions of interpretation (cognitive illusions) are :

- [x] associated with the task of mental construction of the environment
- [ ] due mainly to a conflict between the various sensory systems
- [ ] due mainly to a poor interpretation of instrumental data
- [ ] solely induced in the absence of external reference points

488. 418 040 03 01 03 Memory

The maximum number of unrelated items that can be stored in working memory is:

- [x] about 7 items
- [ ] very limited - only 3 items
- [ ] about 30 items
- [ ] unlimited

489. 2,620 040 03 01 03 Memory

The capacity of the short-term memory is

- [x] about 7 items
- [ ] very limited - only one item
- [ ] about 30 items
- [ ] unlimited

490. 2,621 040 03 01 03 Memory

Information stays in the short-term memory

- [x] about 20 seconds
- [ ] less than 1 second
- [ ] from 5 to 10 minutes
- [ ] around 24 hours

491. 2,701 040 03 01 03 Memory

Motor programmes are:

- [x] stored routines that enable patterns of behaviour to be executed without continuous conscious control
- [ ] rules that enable us to deal with novel situations
- [ ] rules that enable us to deal with preconceived situations
- [ ] stored routines that enable patterns of behaviour to be executed only under continuous conscious control

492. 2,702 040 03 01 03 Memory

Working memory enables us, for example,

- [x] to remember a clearance long enough to write it down
- [ ] to store a large amount of visual information for about 0.5 seconds
- [ ] to ignore messages for other aircraft
- [ ] to remember our own name

493. 2,705 040 03 01 03 Memory

In the short-term-memory, information is stored for approximately

- [x] 20 seconds
- [ ] 5 minutes
- [ ] 1 hour
- [ ] a couple of days

494. 3,401 040 03 01 03 Memory

Working memory :

- [x] is sensitive to interruptions which may erase all or some of its content
- [ ] is unlimited in size
- [ ] is unlimited in duration
- [ ] varies considerably in size between an expert pilot and a novice pilot

495. 3,408 040 03 01 03 Memory

Long-term memory is an essential component of the pilot's knowledge and expertise.

- [x] It is desirable to pre-activate knowledge stored in long-term memory to have it available when required
- [ ] The capacity of long-term memory is limited
- [ ] Long-term memory stores knowledge on a temporary basis
- [ ] The recovery of information from long-term memory is immediate and easy

496. 6,847 040 03 01 03 Memory

The main limit(s) of long-term memory is (are):

- [x] Data retrieval as a result from a loss of access to the stored information
- [ ] the quantity of data which may be stored
- [ ] the instantaneous inputting in memory of all information collected during the day, which comes to saturate it
- [ ] the data storage time

497. 6,849 040 03 01 03 Memory

What are the main limits of short-term memory ?
It is :
-1 : very sensitive to interruptions and interference
-2 : difficult to access
-3 : limited in size
-4 : subject to a biochemical burn-in of information

- [x] 1,3 ,4
- [ ] 1,2 ,3
- [ ] 2 ,3
- [ ] 2,4

498. 6,934 040 03 01 03 Memory

Which of the following characteristics apply to short-term memory ?
- 1 : It is limited in time and size
- 2 : It is unlimited in time and limited in size
- 3 : It is stable and insensitive to disturbances
- 4 : It is limited in time and unlimited in size

- [x] 1
- [ ] 1,3
- [ ] 3,4
- [ ] 2,3

499. 6,935 040 03 01 03 Memory

With regard to short-term memory, we can say that :

- [x] it is made up of everyday information for immediate use, and is limited in its capacity for storing and retaining data
- [ ] it is made up of everyday information for immediate use, and is limited in terms of the time for which it retains data but not in its storage capacity
- [ ] it is a stable form of working memory, and thus not very sensitive to any disturbance
- [ ] it mainly contains procedural knowledge

500. 6,956 040 03 01 03 Memory

To facilitate and reduce the time taken to access information in long-term memory, it is helpful to:

- [x] mentally rehearse information before it is needed
- [ ] learn and store data in a logical and structured way
- [ ] structure irrelevant information as much as possible before committing it to memory
- [ ] avoid to rehearse information which we know we will need soon

501. 6,957 040 03 01 03 Memory

Concerning the capacity of the human long-term memory

- [x] its storage capacity is unlimited
- [ ] it is structurally limited in terms of storage capacity, but unlimted in terms of storage time
- [ ] it is structurally limited in terms of storage time but not in terms of capacity
- [ ] its mode of storing information is passive, making memory searches effective

502. 6,959 040 03 01 03 Memory

Which of the following statements about long-term memory are correct?
-1: Information is stored there in the form of descriptive, rule-based and schematic knowledge.
-2: The period of time for which information is retained is limited by the frequency with which this same information is used.
-3: It processes information quickly and has an effective mode of access in real time.
-4: Pre-activation of necessary knowledge will allow for a reduction in access time.

- [x] 1 and 4 are correct
- [ ] 1 and 2 are correct
- [ ] 2, 3 and 4 are correct
- [ ] 2 and 4 are correct

503. 2,715 040 03 01 04 Response selection

Mental training, mental rehearsal of cognitive pretraining is called the inner, ideomotor simulation of actions.

- [x] It is most important for the acquisition of complex perceptual motor skills
- [ ] It is most important for selfcontrol
- [ ] It is most effective, if it is practiced on an abstract level if imagination
- [ ] It is more effective than training by doing

504. 2,717 040 03 01 04 Response selection

How can the process of learning be facilitated?

- [x] By reinforcing successful trials
- [ ] By increasing the psychological pressure on the student
- [ ] By punishing the learner for unsuccessful trials
- [ ] By reinforcing errors

505. 2,718 040 03 01 04 Response selection

Learning is called each lasting change of behaviour due to

- [x] practice and experience
- [ ] innate mechanisms
- [ ] maturation
- [ ] drug influence

506. 2,719 040 03 01 04 Response selection

Mental training is helpful to improve flying skills

- [x] at all levels of flying proficiency
- [ ] only for student pilots
- [ ] only for instructor pilots
- [ ] only at a certain level of flying experience

507. 3,402 040 03 01 04 Response selection

Motivation is a quality wich is often considered vital in the pilot's work to maintain safety.

- [x] However, excessive motivation leads to stress wich adversly affects performance
- [ ] Motivation reduces the intensity of sensory illusions
- [ ] A high degree of motivation makes it possible to make up for insufficient knowledge in complete safety
- [ ] A high degree of motivation lowers the level of vigilance

508. 3,406 040 03 01 04 Response selection

The quality of learning :

- [x] is promoted by feedback on the value of one's own performance
- [ ] depends on long-term memory capacity
- [ ] is independent of the level of motivation
- [ ] is independent of age

509. 3,410 040 03 01 04 Response selection

Young pilots or pilots with little experience of airplanes differ from experienced pilots in the following way :

- [x] unexperienced pilots refer to information more than experts when carrying out the same task
- [ ] experienced pilots are less routine-minded than young pilots because they know that routine causes mistakes
- [ ] task for task, an expert's workload is greater than a novice's one
- [ ] flight planning performance decreases with age, and experience is unable to mask this deficiency

510. 3,468 040 03 01 04 Response selection

In order to provide optimum human performance it is advisable to

- [x] establish strategies for planning, automating and managing resources (in real time)
- [ ] plan a maximum of objectives and non-automated actions
- [ ] avoid powerful behaviour expedient of automating tasks
- [ ] plan future actions and decisions at least a couple of days in advance

511. 3,470 040 03 01 04 Response selection

The planning and anticipation of future actions and situations makes it possible to:
-1 : create a precise reference framework.
-2 : avoid saturation of the cognitive system.
-3 : automate planned actions.
-4 : activate knowledge which is considered necessary for the period to come.

The correct statement(s) is (are):

- [x] 1, 2 and 4 are correct
- [ ] 1 and 2 are correct
- [ ] 2 and 4 are correct
- [ ] 3 and 4 are correct

512. 3,472 040 03 01 04 Response selection

Pre-thought action plans may be said to:
-1 : ease access to information which may be necessary.
-2 : sensitize and prepare for a possible situation to come.
-3 : be readily interchangeable and can therefore be reformulated at any time during the flight.
-4 : define a framework and a probable strategy for the encountered situation.

The combination of correct statements is:

- [x] 1, 2 and 4 are correct
- [ ] 1, 2 and 3 are correct
- [ ] 2 and 4 are correct
- [ ] 2, 3 and 4 are correct

513. 3,474 040 03 01 04 Response selection

The workload may be said to:
-1 : be acceptable if it requires more than 90 % of the crew resources.
-2 : be acceptable if it requires about 60 % of the crew resources.
-3 : depend on the pilot's expertise.
-4 : correspond to the amount of resources available

The combination of correct statements is:

- [x] 2, 3 and 4 are correct
- [ ] 1, 3 and 4 are correct
- [ ] 1 and 3 are correct
- [ ] 2 and 4 are correct

514. 4,153 040 03 01 04 Response selection

The effect of experience and habit on performance

- [x] can both be beneficial and negative
- [ ] is always negative
- [ ] is never negative
- [ ] is always beneficial

515. 4,157 040 03 01 04 Response selection

Murphy's law states :

- [x] If equipment is designed in such a way that it can be operated wrongly, then sooner or later, it will be
- [ ] Response to a particular stressful influence varies from one person to another
- [ ] Expectation has an influence on perception
- [ ] Performance is dependent on motivation

516. 5,640 040 03 01 04 Response selection

Which of the following are primary sources of motivation in day-to-day professional life ?
1. Being in control of one's own situation
2. Fear of punishment
3. Success (achievement of goals)
4. Social promotion, money

- [x] 1,2,3,4
- [ ] 1,2,3
- [ ] 3,4
- [ ] 2,4

517. 5,641 040 03 01 04 Response selection

Which of the following statements summarises the impact that motivation may have on attention ?

- [x] It increases the mobilisation of energy and thus facilitates the quality of alertness and attention
- [ ] It only facilitates attention in extreme cases (risk of death)
- [ ] Motivation has only a small effect on attention, but it facilitates alertness
- [ ] It stimulates attention but may lead to phases of low arousal

518. 5,682 040 03 01 04 Response selection

The needs of an individual lead to :

- [x] a change in the individuals motivation and consequently to an adaptation of the behaviour
- [ ] preservation from dangers only if social needs are beeing satisfied
- [ ] no change in his motivation and conrequently to the persistence of the individuals behaviour in regard to the desired outcome
- [ ] prolonged suppression of all basic needs in favour of high self-actualization

519. 8,437 040 03 01 04 Response selection

Whilst flying a coordinated turn, most of your activity is

- [x] skill based behaviour
- [ ] coping behaviour
- [ ] knowledge based behaviour
- [ ] rule based behaviour

520. 8,439 040 03 01 04 Response selection

If you approach an airfield VFR at a prescribed altitude, exactly following the approach procedure, and you encounter no inexpected or new problems you show:

- [x] skill based behaviour
- [ ] knowledge based behaviour
- [ ] rule based behaviour
- [ ] rule and skill based behaviour

521. 8,440 040 03 01 04 Response selection

The choice of the moment you select flaps depending on situation and conditions of the landing is:

- [x] skill based behaviour
- [ ] knowledge based behaviour
- [ ] pressure based behaviour
- [ ] rule based behaviour

522. 8,442 040 03 01 04 Response selection

The readiness for tracing information which could indicate the development of a critical situation

- [x] is necessary to maintain good situational awareness
- [ ] is dangerous, because it distracts attention from flying the aircraft
- [ ] makes no sense because the human information processing system is limited anyway
- [ ] "is responsible for the development of inadequate mental models of the real world"

523. 8,446 040 03 01 04 Response selection

1. Lively information is easier to take into consideration for creating a mental picture than boring information.
2.The sequence in which information is offered is also important for the use the pilot makes of it.

- [x] 1 and 2 are both correct
- [ ] 1 is correct, 2 is not correct
- [ ] 1 is not correct, 2 is correct
- [ ] 1 and 2 are both not correct

524. 8,448 040 03 01 04 Response selection

The development of procedures makes pilots more effective and more reliable in their actions. This is called:

- [x] procedural consistency
- [ ] mental model
- [ ] knowledge-based behaviour
- [ ] procedural confusion

525. 2,721 040 03 02 00 Human error and reliability

What is meant by the term 'complacency'?

- [x] Careless negligence or unjustified self-confidence
- [ ] To question possible solutions
- [ ] An agreement between captain and co-pilot due to Crew Resources Management
- [ ] Physiological consequences on pilots because of fear of flying

526. 2,725 040 03 02 00 Human error and reliability

It is desirable to standardize as many patterns of behaviour (operating procedures) as possible in commercial aviation mainly because

- [x] such behaviour reduces errors even under adverse circumstances
- [ ] this lowers the ability requirement in pilot selection
- [ ] this reduces the amount of training required
- [ ] it makes the flight deck easier to design

527. 3,404 040 03 02 00 Human error and reliability

Human errors are frequent and may take several forms :

- [x] an error can be described as the mismatch between the pilots intention and the result of his/her actions
- [ ] an error of intention is an error of routine
- [ ] an violation is an error which is always involuntary
- [ ] representational errors in which the pilot has properly identified the situation and is familiar with the procedure

528. 3,511 040 03 02 00 Human error and reliability

What means can be used to combat human error?
-1 : Reducing error-prone mechanisms.
-2 : Improving the way in which error is taken into account in training.
-3 : Sanctions against the initiators of error.
-4 : Improving recovery from errors and its consequences.

The combination of correct statements is:

- [x] 1, 2 and 4
- [ ] 3 and 4
- [ ] 1 and 2
- [ ] 2, 3 and 4

529. 5,723 040 03 02 00 Human error and reliability

What would be the priority aim in the design of man-machine interfaces and in the creation of their application procedures for combatting problems associated with human error ?

- [x] To reduce the risks of the appearance or non-detection of errors entailing serious consequences
- [ ] To eliminate the risk of latent errors occuring
- [ ] To cater systematically for the consequences of errors in order to analyse their nature and modify ergonomic parameters
- [ ] To put in place redundant alarm systems

530. 2,714 040 03 02 01 Reliability of human behaviour

An excessive need for safety

- [x] hampers severly the way of pilot decision making
- [ ] is absolute necessary for a safe flight operation
- [ ] is the most important attribute of a line pilot
- [ ] guarantees the right decision making in critical situations

531. 3,507 040 03 02 01 Reliability of human behaviour

Why must flight safety considerations consider the human error mechanism?
-1 : It is analysis of an incident or accident which will make it possible to identify what error has been committed and by whom. It is the process whereby the perpetrator is made responsible which may lead to elimination of the error.
-2 : If we have a better understanding of the cognitive error mechanism, it will be possible to adapt procedures, aircraft interfaces, etc.
-3 : It is error management procedure which enables us to continuously adjust our actions. The better we understand the underlying mechanism of an error, the better will be our means for detecting and adapting future errors.
-4 : Since error is essentially human, once it has been identified by the use of procedures, a person will be able to anticipate and deal with it automatically in the future.

The correct statement(s) is (are):

- [x] 2 and 3
- [ ] 3 and 4
- [ ] 2 and 4
- [ ] 1 and 4

532. 3,508 040 03 02 01 Reliability of human behaviour

Improvement of human reliability should entail:

- [x] an effort to understand the causes and find means of recovery for errors committed
- [ ] in aviation, the elimination of errors on the part of front-line operators
- [ ] the elimination of latent errors before they can effect performance
- [ ] the analysis of modes of human failures

533. 3,509 040 03 02 01 Reliability of human behaviour

How can man cope with low error tolerant situations?

- [x] By constantly complying with cross-over verification procedures (cross monitoring)
- [ ] By increasing error detection in all circumstances
- [ ] By randomly applying a combination of optimum detection, warning and monitoring systems
- [ ] By generally avoiding situations in which tolerance to error is low

534. 3,510 040 03 02 01 Reliability of human behaviour

What are the various means which allow for better error detection?
-1 : Improvement of the man-machine interface.
-2 : Development of systems for checking the consistency of situations.
-3 : Compliance with cross-over redundant procedures by the crew.
-4 : Adaptation of visual alarms to all systems.

The correct statement(s) is (are):

- [x] 1, 2 and 3
- [ ] 1and 3
- [ ] 2, 3 and 4
- [ ] 3 and 4

535. 4,142 040 03 02 01 Reliability of human behaviour

Studies of human error rates during the performance of simple repetitive task have shown, that errors can normally be expected to occur about

- [x] 1 in 10 times
- [ ] 1 in 50 times
- [ ] 1 in 100 times
- [ ] 1 in 250 times

536. 4,143 040 03 02 01 Reliability of human behaviour

Which of the following human error rates can be described as both realistic and pretty good, after methodical training

- [x] 1 in 100 times
- [ ] 1 in 1000 times
- [ ] 1 in 10000 times
- [ ] 1 in 100000 times

537. 4,154 040 03 02 01 Reliability of human behaviour

Situations particularly vulnerable to " reversion to an earlier behaviour pattern" are :
1. when concentration on a particular task is relaxed
2. when situations are characterised by medium workload
3. when situations are characterised by stress

- [x] 1. and 3.
- [ ] 1. and 2.
- [ ] 3.
- [ ] 2. and 3.

538. 4,155 040 03 02 02 Hypotheses on reality

The most dangerous characteristic of the false mental model is, that it

- [x] is frequently extremely resistant to correction
- [ ] will mainly occur under conditions of relaxation
- [ ] will only occur under conditions of stress
- [ ] can easily be changed

539. 3,466 040 03 02 03 Theory and model of human error

According to Rasmussen's model, errors in rule-based control mode are of the following type(s) :

- [x] errors of technical knowledge
- [ ] routine errors
- [ ] handling errors
- [ ] creative errors

540. 3,467 040 03 02 03 Theory and model of human error

According to Rasmussen's model, errors are of the following type(s) in skill-based control mode:

- [x] routine errors
- [ ] knowledge errors
- [ ] handling errors
- [ ] creative errors

541. 3,494 040 03 02 03 Theory and model of human error

Which of the following statements best fits the definition of an active error?
Active error is:

- [x] produced by the operator and can be rapidly detected via the effects and consequences which it induces on the overall action
- [ ] produced either by a front-line operator or by a remote operator and results in a hidden or latent consequence at a specific moment of the action
- [ ] essentially results from the application of a bad rule or the poor application of a good rule by airplane designers
- [ ] rare in front-line actions and difficult to detect owing to the fact that it usually occurs in a complex system of uncontrolled and involuntary deviations

542. 3,495 040 03 02 03 Theory and model of human error

What are the main consequences of latent errors? They:
-1 : remain undetected in the system for a certain lenght of time.
-2 : may only manifest themselves under certainl conditions.
-3 : are quickly detectable by the front-line operator whose mental schemas on the instantaneous situation filter out formal errors.
-4 : lull the pilots into security.

The correct statement(s) is (are):

- [x] 1,2 and 4
- [ ] 1 and 2
- [ ] 1 and 3
- [ ] 2, 3 and 4

543. 3,496 040 03 02 03 Theory and model of human error

Which of the following statements fits best the concept of latent error?
Latent errors:

- [x] have been present in the system for a certain lenght of time and are difficult to understand as a result of the time lag between the generation and the occurence of the error
- [ ] are rarely made by front-line operators, and are consequently readily identified and detected by the monitoring, detection and warning links
- [ ] are mainly associated with the behaviour of front-line operators and are only detected after advanced problem-solving
- [ ] rapidly may be detected via their immediate consequences on the action in progress

544. 3,499 040 03 02 03 Theory and model of human error

A system is all the more reliable if it offers good detectability. The latter is the result of:
-1 : tolerance of the various systems to errors.
-2 : the sum of the automatic monitoring, detection and warning facilities.
-3 : the reliability of the Man-Man and Man-Machine links.
-4 : the alerting capability of the Man-Machine interface.

The combination of correct statements is:

- [x] 2 and 4
- [ ] 1, 2 and 4
- [ ] 1 and 3
- [ ] 3 and 4

545. 3,501 040 03 02 03 Theory and model of human error

When can a system be said to be tolerant to error?
When:

- [x] the consequences of an error will not seriously jeopardise safety
- [ ] its safety system is too permeable to error
- [ ] its safety system has taken account of all statistically probable errors
- [ ] latent errors do not entail serious consequences for safety

546. 3,503 040 03 02 03 Theory and model of human error

Once detected, an error will result in cognitive consequences which:

- [x] make it possible to modify behaviour with a view to adaptation
- [ ] destabilize cognitive progress and maintain the error
- [ ] are prompted by inductive factors
- [ ] have virtually no interaction with behaviour

547. 3,543 040 03 02 03 Theory and model of human error

Human behaviour is determined by:

- [x] biological characteristics, social environment and cultural influences
- [ ] biological characteristics
- [ ] the social environment
- [ ] cultural influences

548. 5,644 040 03 02 03 Theory and model of human error

The level of automation of behaviour-patterns facilitates the saving of resources and therefore of attention. On the other hand, it may result in :

- [x] routine errors (slips)
- [ ] mistakes
- [ ] decision-making errors
- [ ] errors in selecting an appropriate plan of action

549. 5,729 040 03 02 03 Theory and model of human error

What happens in problem-solving when the application of a rule allows for the situation to be resolved ?

- [x] Actions return to an automatic mode
- [ ] A switch is made to knowledge mode in order to refine the results
- [ ] A switch is made to knowledge- based mode in order to continue monitoring of the problem
- [ ] A second monitoring rule must be applied

550. 5,730 040 03 02 03 Theory and model of human error

In problem-solving, what determines the transition from rules-based activities to a knowledge-based activity ?

- [x] The unsuitability of the known rules for the problem posed
- [ ] Attentional capture
- [ ] Knowledge of rules which apply to the problem posed
- [ ] The unsuitability of the automated actions

551. 5,732 040 03 02 03 Theory and model of human error

Which of the following errors occur at rules-based level ?
1.Omission
2.The application of a poor rule
3. Attentional capture
4. The poor application of a good rule

- [x] 2,4
- [ ] 1,2
- [ ] 3,4
- [ ] 1,3

552. 5,735 040 03 02 03 Theory and model of human error

The descriptive aspect of errors according to Hollnagel's model describes various directly observable types of erroneous actions which are :
1. Repetition and omission
2. The forward leap and the backward leap
3. Intrusion and anticipation
4. Intrusion

- [x] 1,2,4
- [ ] 1,3
- [ ] 2,4
- [ ] 1,2,3

553. 2,722 040 03 02 04 Error generation

What does the 'End Deterioration Effect'('Home-itis') mean?

- [x] The tendency to sudden, imperceptible errors shortly before the end of a flight
- [ ] The result of a poor preflight planning
- [ ] The potential risk of loosing orientation after flying in clouds
- [ ] The breakdown of crew coordination due to interpersonal tensions between captain and co-pilot

554. 2,723 040 03 02 04 Error generation

'Environmental capture' is a term used to describe which of the following statements?
1.The tendency for a skill to be executed in an environment in which it is frequently exercised, even if it is inappropriate to do so
2.The tendency for a skill acquired in one aircraft type to be executed in a new aircraft type, even if it is inappropriate to do so
3. The tendency for people bo behave in different ways in different social situations
4. The gaining of environmental skills

- [x] 1 and 2 are correct
- [ ] 1, 2 and 3 are correct
- [ ] 2 and 3 are correct
- [ ] 4 is correct

555. 3,411 040 03 02 04 Error generation

Analysis of accidents involving the human factor in aviation shows that :

- [x] there is hardly ever a single cause responsible
- [ ] only front-line operators are involved
- [ ] only pilot training will make it possible to improve the situation
- [ ] failure of the human factor is always connected with technical breakdowns

556. 3,500 040 03 02 04 Error generation

To avoid wrong decisions by the pilot, an aircraft system should at least be able to

- [x] report its malfunction
- [ ] report the deviation
- [ ] correct the deviation
- [ ] tolerate the deviation

557. 5,728 040 03 02 04 Error generation

What may be the origins of representation errors ?
1. Perception errors
2. The catering for all available information
3. Incorrect information from the observed world
4. The receipt of a bad piece of information

- [x] 1,3,4
- [ ] 1,2
- [ ] 3,4
- [ ] 2,3

558. 5,731 040 03 02 04 Error generation

Under what circumstances will a pilot change from automated level to rule-based level ?

- [x] When detecting, that an automated behaviour will no longer lead to the intended outcome
- [ ] Failure of all the known rules
- [ ] The appearance of a situation or problem which is unknown and completely new
- [ ] An automated cognitive check procedure

559. 5,734 040 03 02 04 Error generation

Errors which occur during highly automated actions may result from :
1. the capture of a poor action subprogram
2. a mistake in the decision making process
3. the application of a poor rule
4. an action mode error

- [x] 1,4
- [ ] 1,2
- [ ] 3,4
- [ ] 2,3,4

560. 5,736 040 03 02 04 Error generation

What are the main characteristics of active errors ?
They :
1. are detectable only with difficulty by first-line operators
2. have rapid and direct consequences on the action in progress
3. are down to first-line operators
4. have an impact on the overall action whose timing may be affected significantly

- [x] 2,3
- [ ] 1,2
- [ ] 3,4
- [ ] 1,4

561. 6,964 040 03 02 04 Error generation

The relationship which exists between crew error and flight safety :

- [x] is dependent on the social and technical system and also on the operational context created by the system
- [ ] is a linear relationship which introduces crew training as the main factor
- [ ] is independent of the operational context, with the latter being identical for any flight operation
- [ ] has been evolving for 40 years and has now become independent of the social and technical system

562. 8,415 040 03 02 04 Error generation

The effects of sleep deprivation on performance:
1. increase with altitude
2. decrease with altitude
3. increase with higher workload
4. decrease with higher workload

- [x] 1 and 3 are correct
- [ ] 1,2 and 3 are correct
- [ ] 1, 3 and 4 are correct
- [ ] 2, 3 and 4 are correct

563. 2,726 040 03 03 00 Decision making

When a pilot is facing a problem during flight he should

- [x] take as much time as he needs and is available to make up his mind
- [ ] always make up his mind quickly to give himself as much spare time as possible
- [ ] avoid making up his mind until the very last minute
- [ ] make up his mind before consulting other crew members

564. 2,727 040 03 03 00 Decision making

The decision making in emergency situations requires firstly:

- [x] distribution of tasks and crew coordination
- [ ] speed of reaction
- [ ] informing ATC thoroughly about the situation
- [ ] the whole crew to focus on the problem

565. 2,728 040 03 03 00 Decision making

Which of the following abilities will not improve efficient decision making on the cockpit?

- [x] Ability to persuade others to follow the own point of view.
- [ ] Communicational skills and social competence.
- [ ] Ability to search for and examine all available information regarding a situation.
- [ ] Ability to think ahead and specify alternative courses of action.

566. 2,729 040 03 03 00 Decision making

The assessment of risk in a particular situation will be based on

- [x] subjective perception and evalutation of situational factors
- [ ] external factors only
- [ ] the emergency checklist only
- [ ] situational factors only

567. 2,730 040 03 03 00 Decision making

Once a pilot has developed a certain way of thinking about a problem he will probably

- [x] find it difficult to get out of that way of thinking and difficult to try a different interpretation of the data
- [ ] find it difficult to stick to his/her interpretation of the data
- [ ] find it easy to interpret the data in different ways
- [ ] find it impossible to get out of that way of thinking, whatever happens

568. 2,731 040 03 03 00 Decision making

To maintain good situational awareness you should:
(1) believe only in your own interpretation of the data
(2) gather as much datas as possible from every possible source before making inferences
(3) question whether your hypothesis still fits the situation as events progress and try to make time to review the situation
(4) consider ways of testing your situational hypothesis to see whether it is correct

- [x] 2, 3 and 4 are correct
- [ ] all answers are correct
- [ ] 1 and 4 are correct
- [ ] 1 and 3 are correct

569. 3,403 040 03 03 01 Decision-making concepts

Which of the following statements is correct regarding decision making?

- [x] Deciding means choosing between alternatives.
- [ ] Deciding means being able to come up with original solutions.
- [ ] Deciding means imposing one's point of view.
- [ ] Deciding means applying an automatic procedure.

570. 3,546 040 03 03 01 Decision-making concepts

Most accidents are mainly caused by lack of:

- [x] good judgement
- [ ] physical skills
- [ ] interpersonal relations
- [ ] good maintenance of aircraft

571. 3,548 040 03 03 01 Decision-making concepts

Judgement is based upon:

- [x] a process involving a pilot´s attitude to take and to evaluate risks by assessing the situation and making decisions based upon knowledge, skill and experience
- [ ] a decision making process involving physical sensations and their transfer to manually operate the aircraft controls
- [ ] the development of skills from constant practice of flight manoeuvres
- [ ] the ability to interpret the flight instruments

572. 5,693 040 03 03 01 Decision-making concepts

Which problem may be overlooked in the process of making a decision?

- [x] Owing to great haste, bypassing analysis of the current actual situation in order to apply the decision prepared beforehand
- [ ] Preparing decisions often leads to strategies of minimum commitment
- [ ] Preparing decisions promotes the appearance of inflexibilities
- [ ] The captain's superior knowledge, justified by his/her status

573. 5,694 040 03 03 01 Decision-making concepts

In terms of decision-making, the intention to become integrated into the team, to be recognised as the leader or to avoid conflicts may lead to :

- [x] the attempt to agree on decisions made by other crew members
- [ ] an authoritarian approach thus demonstrating ones own ability to lead
- [ ] the improvement of internal risk assessment capabilities
- [ ] the suggestion of a sequential solution in which everyone can contribute what he/she knows

574. 5,699 040 03 03 01 Decision-making concepts

What strategy should be put in place when faced with an anticipated period of time pressure ?

- [x] A strategy of preparing decisions
- [ ] A non-sequential strategy
- [ ] A Laissez-faire strategy
- [ ] A strategy of no commitment

575. 5,707 040 03 03 01 Decision-making concepts

Which biases relate to human decision making?
1. Personal experience tends to alter the perception of the risk of an event occurring
2. There is a natural tendency to want to confirm our decision even in the face of facts which contradict it
3. The group to which an individual belongs tends to influence the particular decision
4. There is natural tending to select only objective facts for decision-making purposes

- [x] 1,2,3
- [ ] 1,2
- [ ] 3,4
- [ ] 1,2,4

576. 5,708 040 03 03 01 Decision-making concepts

Habits and routine can influence decision-making in a way that:

- [x] a tendency to select the most familiar solution first and foremost, sometimes to the detriment of achieving the best possible result
- [ ] one always wants to see previous experience confirmed by new decisions
- [ ] professional pilots will never question established procedures
- [ ] one always selects a choice in accordance with the company's usual practices

577. 5,710 040 03 03 01 Decision-making concepts

Decision-making can be influenced by the following factors:
1. people tend to conform to opinions expressed by a majority within the group they belong to
2. people always tend to keep the future decisions in line with those their superiors have made in the past
3. people more easily tend to select data which meet the expectations
4. people hardly base decisions on their personal preferences but rather on rational information

- [x] 1,3
- [ ] 2,3
- [ ] 1,4
- [ ] 2,4

578. 5,711 040 03 03 01 Decision-making concepts

The DECIDE model is based on :

- [x] a prescriptive generic model, taking into account the method which seems most likely to come up with the solution
- [ ] a prescriptive generic model which is subject to mathematical logic
- [ ] a normative generic model based on mathematical logic
- [ ] a statistical model based on observation of human decision-making

579. 5,717 040 03 03 01 Decision-making concepts

Decision-making is a concept which represents :

- [x] a voluntary and conscious process of selection, from among possible solutions, for a given problem
- [ ] an automated or automation-like act of applying defined procedures
- [ ] an automatic process of selection from among the various solutions to a given problem
- [ ] a spontaneous act of seeking the most effective solution in a given situation when faced with a defined problem

580. 5,719 040 03 03 01 Decision-making concepts

Which of the following characteristics form part of decision-making on the flight deck ?

- [x] A good decision depends on analysis of the situation
- [ ] A decision is only valid in a defined and delimited time
- [ ] A good decision can always be reversed if its result does not come up to expectations
- [ ] A group decision must always be established prior to action

581. 5,721 040 03 03 01 Decision-making concepts

In decision-making, the selection of a solution depends :
1. on objective and subjective criteria
2. on the objective to be achieved
3. on the risks associated with each solution
4. above all on the personality of the decision-maker

- [x] 1,2,3,4
- [ ] 1,2,4
- [ ] 1,3
- [ ] 4

582. 5,722 040 03 03 01 Decision-making concepts

Decision-making results in:

- [x] a choice between different solutions for achieving a goal
- [ ] a choice always based on the experience of the PIC
- [ ] an objective choice concerning applicable solutions for a given end
- [ ] a subjective choice concerning applicable solutions

583. 6,915 040 03 03 01 Decision-making concepts

The confirmation bias of decision making is

- [x] a tendency to ignore that information which indicates that a decision is poor;
- [ ] a tendency not to seek for information which confirms a judgement
- [ ] a tendency not to look for information which would reassure oneself about a decision
- [ ] a tendency to look for facts that confirm expectations before implementing one's decision

584. 3,549 040 03 04 01 Safety awareness

The relevance of check procedures during flight becomes even more important when:

- [x] flying an unfamiliar type of aircraft and experiencing mental pressure
- [ ] flying an aircraft which you have flown recently
- [ ] conducting a longer flight than you would normally perform
- [ ] flying an aircraft which you have flown many times before

585. 3,550 040 03 04 01 Safety awareness

Which of the following responses is an example of " habit reversion" (negative habit transfer):

- [x] A pilot who has flown many hours in an aircraft in which the fuel lever points forward for the ON position, may unintentionally turn the fuel lever into the false position, when flying a different aircraft, where the fuel lever has to point aft to be in the ON position
- [ ] Turning and aircraft to the left when intending to turn it to the right
- [ ] Incorrect anticipation of an air traffic controller´s instructions
- [ ] habitually missing an item on the checklist or missing the second item when two items are on the same line

586. 3,551 040 03 04 01 Safety awareness

Although the anticipation of possible events is a good attitude for pilots to acquire, it can sometimes lead to hazardous situations. With this statement in mind, select the response below which could lead to such a hazard:

- [x] mishearing the contents of a reply from an air traffic controller when a non-standard procedure was given but a standard procedure was anticipated
- [ ] anticipating that the weather may deteriorate
- [ ] anticipating that the flight will take longer time than planned
- [ ] anticipating the sequence of items on a check list.

587. 6,874 040 03 04 01 Safety awareness

The following course of action must be taken if gastrointestinal or cardiopulmonary complaints or pain arise before take-off :
-1 : take the standard medicines and advise the doctor on returning from the flight
-2 : assess your own ability to fly, if necessary with the help of a doctor
-3 : if in doubt about fitness to fly - do not fly!
-4 : reduce the cabin temperature, and drink before you are thirsty so as to avoid dehydration

- [x] 2,3
- [ ] 1,3
- [ ] 1,4
- [ ] 1,2,4

588. 8,451 040 03 04 01 Safety awareness

You are transporting a passenger who has to be at a certain destination for a meeting. The weather forcast at destination tends to be much worse than expected, so you consider to divert. The businessman offers you money if you manage to land there at any case.
What is your appropriate way of action? You will

- [x] decide to divert if you think it is necessary.
- [ ] continue and think about the nice things you can buy from the money
- [ ] divert in any case to demonstrate who' s the man in charge aboard
- [ ] see what you can do and ask the copilot to tolerate any decision

589. 2,732 040 03 04 02 Co-ordination (multi-crew concepts)

Doing a general briefing in the preflight phase the captain should emphasize

- [x] particular requirements in the field of crew coordination due to specific circumstances
- [ ] complete delegation of all duties
- [ ] to depart on schedule
- [ ] to avoid inadequate handling of flight controls

590. 3,438 040 03 04 02 Co-ordination (multi-crew concepts)

Of the following statements, which apply to coordinated cooperation?
-1 : It allows for synergy in the actions between the captain and the pilot.
-2 : It represents the simultaneous execution of a single action by the various members of the crew.
-3 : Communication in this mode has the function of synchronizing actions and distributing responsibilities.
-4 : Communication must be essentially focussed on temporal and cognitive synchronisation.

The correct statement(s) is (are):

- [x] 1 and 3
- [ ] 1,2 and 4
- [ ] 2 and 3
- [ ] 1 and 4

591. 3,439 040 03 04 02 Co-ordination (multi-crew concepts)

What are the advantages of coordination?

- [x] Redundancy, synergy, clarification of responsibility.
- [ ] Cooperation, cognition, redundancy.
- [ ] Interaction, cognition, redundancy.
- [ ] Redundancy, exploration, risky shift.

592. 3,441 040 03 04 02 Co-ordination (multi-crew concepts)

Coaction is a mode of coordination which recommends:

- [x] working parallel to achieve one common objective
- [ ] working parallel to achieve individual objectives
- [ ] sustained cooperation on actions and the formulation of commitments concerning flight situations
- [ ] the application of procedural knowledge in the conduct of specific actions

593. 3,459 040 03 04 02 Co-ordination (multi-crew concepts)

Which of the following statements concerning check list is correct?

- [x] The most important items should be placed at the beginning of a check list since attention is usually focused here
- [ ] The most important items must be placed at the end of check list, allowing them to be kept near at hand so that they are quickly available for any supplementary check
- [ ] The most important items must be placed in the middle of check list so that they come to be examined once attention is focused but before concentration starts to wane
- [ ] All the items of a check list are equally important; their sequence is of no importance

594. 3,460 040 03 04 02 Co-ordination (multi-crew concepts)

Which of the following statements are correct with regard to the design of a check list?
-1 : The longer a check list, the more it must be subdivided into logical parts.
-2 : The trickiest points must be placed in the middle of the check list.
-3 : Check lists must be designed in such a way that they can be lumped together with other tasks.
-4 : Whenever possible, a panel scan sequence should be applied
-5 : Critical points should have redundancies.
The combination of correct statements is:

- [x] 1, 4 and 5 are correct
- [ ] 1, 2 and 3 are correct
- [ ] 1, 2 and 5 are correct
- [ ] 1, 3 and 5 are correct

595. 3,461 040 03 04 02 Co-ordination (multi-crew concepts)

The use of check lists must be carried out in such a way that:

- [x] their execution must not be done simultaneously with other actions
- [ ] their execution may be done simultaneously with other actions
- [ ] their execution is not lumped together with important tasks
- [ ] it may be rejected since redundancy in the following check list will serve as verification

596. 3,471 040 03 04 02 Co-ordination (multi-crew concepts)

The purpose of action plans which are implemented during briefings is to:

- [x] initiate procedures and reactions for situations that are most likely, risky or difficult during the flight
- [ ] define general planning of the flight plan
- [ ] allow everyone to prepare their own reactions in a difficult situation
- [ ] activate a collective mental schema with respect to non-procedural actions to be carried out

597. 3,473 040 03 04 02 Co-ordination (multi-crew concepts)

In order to overcome an overload of work during the flight, it is necessary to:
-1 : know how to use one's own reserve of resources in order to ease the burden on the crew.
-2 : divide up tasks among the crew.
-3 : abandon automatic mode and instead process as much information as possible consciously.
-4 : drop certain tasks and stick to high-level priorities.

The correct statement(s) is (are):

- [x] 1, 2 and 4 are correct
- [ ] 1 and 3 are correct
- [ ] 1, 2 and 3 are correct
- [ ] 3 and 4 are correct

598. 3,554 040 03 04 02 Co-ordination (multi-crew concepts)

The person with overall responsibility for the flight is the
-1 Pilot in Command
-2 Co-pilot
-3 Navigator
-4 Air traffic controller

The correct statement(s) is (are):

- [x] 1
- [ ] 1 and 2
- [ ] 2 and 3
- [ ] 4

599. 4,134 040 03 04 02 Co-ordination (multi-crew concepts)

The trend in airplane hull-loss rate over the last three decades seems to be related to :

- [x] the crew
- [ ] the manufacturer
- [ ] the number of engines
- [ ] the year of manufacture

600. 6,855 040 03 04 02 Co-ordination (multi-crew concepts)

Action plans (SOP's) in a cockpit must :

- [x] be shared by the members of the crew and updated at each modification in order to maintain maximum synergy
- [ ] be tailored to the individual pilot's needs in order to facilitate the normal operation of the aircraft
- [ ] only be tailored to the type of aircraft, regardless of current MCC procedures
- [ ] only follow the manufacturers proposals and not reflect individual operators cockpit philosophies

601. 511 040 03 04 03 Co-operation

The " ideal professional pilot" is, in his behaviour,

- [x] " "person" and " goal" oriented"
- [ ] "rather " person" than " goal" oriented"
- [ ] "neither " person" nor " goal" oriented"
- [ ] "rather " goal" than " person" oriented"

602. 2,733 040 03 04 03 Co-operation

During the preparational work in the cockpit the captain notices that his copilot on the one hand is rather unexperienced and insecure but on the other hand highly motivated. Which kind of leadership behaviour most likely is inappropriate?

- [x] The captain lets the copilot fly and observes his behaviour without any comments
- [ ] The captain flies the first leg by himself and explains each action to the copilot in order to keep him informed about his decisions
- [ ] The captain lets the copilot fly and gives him detailled instructions what to do
- [ ] The captain lets the copilot fly and encourages him frankly to ask for any support that needed

603. 2,734 040 03 04 03 Co-operation

Which one of the following statements characterizes a democratic and cooperative leadership style?
If conflicts evolve, the leader

- [x] tries to clarify the reasons and causes of the conflict with all persons involved
- [ ] mainly tries to reconcile all persons involved in the conflict and tries to reestablish a nice and friendly atmosphere within the team
- [ ] keeps a neutral position and does not participate in arguing
- [ ] decides what to do and pushes his own opinion through

604. 2,735 040 03 04 03 Co-operation

Which of the following sentences concerning crew-performance is correct?

- [x] The quality of crew-performance depends on the social-competence of individual team members
- [ ] To be a member of a team can not increase one's own motivation to succeed in coping with task demands
- [ ] Mistakes can always be detected and corrected faster by the individual
- [ ] The quality of crew-performance is not dependent on social-competence of individual team members

605. 2,736 040 03 04 03 Co-operation

Informal roles within a crew

- [x] evolve as a result of the interactions that take place among crew members
- [ ] are explicitely set out by the crew
- [ ] do not impair the captain's influence
- [ ] characterize inefficient crews

606. 2,737 040 03 04 03 Co-operation

Which statement is correct? Crew decision making is generally most efficient, if all crew members concerned

- [x] adapt their management style to meet the situational demands
- [ ] are always task oriented
- [ ] are always relationship oriented
- [ ] always ask the captain what to do

607. 2,738 040 03 04 03 Co-operation

Which behaviour does most likely promote a constructive solution of interpersonal conflicts?

- [x] Active listening.
- [ ] Responding with counter-arguments.
- [ ] Staying to the own point of view.
- [ ] Giving up the own point of view.

608. 2,739 040 03 04 03 Co-operation

The team spirit of a cockpit-crew most likely depends on

- [x] both pilots respecting each other and striving for the same goals
- [ ] both pilots wearing the same uniform
- [ ] both pilots flying together very often for a long period
- [ ] both pilots having the same political and ideological attitude

609. 2,740 040 03 04 03 Co-operation

During the cruising phase of a short-haul flight the captain starts to smoke a cigarette in the cockpit. The flying copilot asks him to stop smoking because he is a non-smoker. The captain tells him: 'This is your problem', and continues smoking. What should the copilot do?

- [x] He should not further discuss this issue but should come back to this conflict during the debriefing
- [ ] He should learn to accept the captain smoking cigarettes in the cockpit
- [ ] He should repeat his worries about smoking in the cockpit and should argue with the captain about this problem until the conflict is solved
- [ ] He should report the chief pilot about this behaviour of the captain

610. 2,741 040 03 04 03 Co-operation

How would you call the leadership style of a captain who primarily is interested in a friendly atmosphere within his crew, who is always constructive and encouraging, who usually compromises in interpersonal conflicts, who trusts in the capabilities of his crew-members, and who leaves the crew freedom for own decisions, even if this makes the process more difficult?

- [x] Low task-orientation and high relationship-orientation
- [ ] High task-orientation and low relationship-orientation
- [ ] High task-orientation and high relationship-orientation
- [ ] Low task-orientation and low relationship-orientation

611. 2,742 040 03 04 03 Co-operation

If the copilot continuosly feels unfairly treated by the captain in an unjustified way, then he should

- [x] duly point out the problem, reconcentrate on his duties and clear the matter in a more appropriate occasion
- [ ] freeze the communication and thus avoid immediate confrontation
- [ ] speak up and point at consequencies if unfair behaviour persists
- [ ] internally retire and think positive

612. 2,747 040 03 04 03 Co-operation

Mark the two most important attributes for a positive leadership style:
(1) dominant behaviour
(2) examplary role-behaviour
(3) mastery of communication skills
(4) " Laissez-faire" behaviour

- [x] 2 and 3
- [ ] 1 and 4
- [ ] 1 and 3
- [ ] 2 and 4

613. 3,454 040 03 04 03 Co-operation

What are typical consequences of conflicts between crew members?
-1 The quality of work performance decreases as a result of the impoverishment of communications
-2 A decrease in the quality of communications
-3 In the case of a crew made up of experts, conflicts only result in a deterioration in relations between the individuals
-4 A decrease in the usage of available resources on the flight deck

The correct statement(s) is (are):

- [x] 1, 2 and 4 are correct
- [ ] 2, 3 and 4 are correct
- [ ] 1, 3 and 4 are correct
- [ ] 1, 2 and 3 are correct

614. 3,547 040 03 04 03 Co-operation

Pilots are more easily inclined to take greater risks when:

- [x] they are part of a group of pilots and they feel that they are beeing observed and admired (e.g. air shows)
- [ ] making decisions independently of others
- [ ] they are not constrained by time
- [ ] making a flight over unfamiliar territory

615. 5,664 040 03 04 03 Co-operation

What elements establish synergy within the crew ?

- [x] Synergy must be built up from the start of the mission (briefing) and be maintained until it comes to an end (debriefing)
- [ ] Synergy establishes itself automatically within the crew, right through from briefing to debriefing
- [ ] Synergy is independent of the natural individual characteristics of the group members (communication, mutual confidence, sharing of tasks, etc.)
- [ ] It is only the captain's status which allows the establishment of synergy within the crew

616. 5,666 040 03 04 03 Co-operation

Which of the following statements best characterise a synergetic cockpit?
1. Decisions are taken by the captain, but prepared by the crew
2. There is little delegating of tasks
3. Communications are few in number but precise and geared purely to the flight
4. Fluid, consensual boundaries exist in regard to leadership-style, which fluctuate between authority and laissez-faire

- [x] 1,4
- [ ] 1,3,4
- [ ] 2,3
- [ ] 2,4

617. 5,667 040 03 04 03 Co-operation

Which of the following statements best characterise a self-centered cockpit ?

- [x] Without taking note of what the other members are doing, each one does his own thing while at the same time assuming that everyone is aware of what is being done or what is going on
- [ ] The egocentric personality of the captain often leads to a synergetic cockpit
- [ ] The communication between crew members always increases when the captain takes charge of a situation
- [ ] While decreasing communication, the independence of each member bolsters the crew's synergy

618. 5,668 040 03 04 03 Co-operation

What may become the main risk of a " laissez-faire" cockpit ?

- [x] Inversion of authority
- [ ] Lack of communication
- [ ] Appearance of agressiveness
- [ ] Disengagement of the co-pilot

619. 5,669 040 03 04 03 Co-operation

What is characterized by a " laissez-faire" cockpit ?

- [x] A passive approach by the captain allows decisions, choices and actions by other crew members
- [ ] Each member carries out actions and makes choices without explicity informing the other members about them
- [ ] The captain's authority rules all the actions or decisions associated with the situation
- [ ] The high level of independence granted to each member by the captain quickly leads to tension between the various crew members

620. 5,670 040 03 04 03 Co-operation

What are the most frequent and the least appropriate reactions on the part of a co-pilot when faced with a highly authoritarian captain ?
1. Self-assertion
2. A scapegoat feeling
3. Delayed reactions to observed discrepancies
4. Disengagement

- [x] 2,3,4
- [ ] 1,2
- [ ] 3,4
- [ ] 1,3,4

621. 5,671 040 03 04 03 Co-operation

What are the most frequent results of an self-centred captain on the flight deck ?

- [x] In a two-pilot flight deck, the co-pilot is ignored and may react by disengaging, showing delayed responses or demonstrate the scapegoat effect
- [ ] High group performance despite the strained relations
- [ ] A major risk of authority inversion if the co-pilot is inassertive
- [ ] Performance is very poor as self-centred behaviour leads to an increase of cooperation and efficiency

622. 5,673 040 03 04 03 Co-operation

An autocratic cockpit is described by :

- [x] The captain's excessive authority cosiderably reduces communications and consequently the synergy and cohesion of the crew
- [ ] Despite the overly strong authority of the captain, everything functions correctly owing to his natural leadership
- [ ] Each of the members chooses what job to do without telling the others and in the belief that everyone is aware of what he is doing
- [ ] The atmosphere is relaxed thanks to a captain who leaves complete freedom to the various members of the crew

623. 5,675 040 03 04 03 Co-operation

What optimises crew co-operation ?
1. Sharing and common task
2. Confidence in each others capability
3. Precise definition of functions associated with each crew members role

- [x] 1,2,3
- [ ] 1
- [ ] 1,2
- [ ] 2,3

624. 5,676 040 03 04 03 Co-operation

What distinguishes status from role ?

- [x] While role defines- via behaviour- the functions that must be performed by individuals, status defines the enjoyment of a hierarchical position and its recognition by the group
- [ ] While role defines the enjoyment of a hierarchical position and its recognition by the group, status defines - via behaviour- the functions that must be performed by individuals
- [ ] Unlike status, role is fixed and is not modified either by the situation in flight or by the interactions of a new crew
- [ ] Unlike status, role is fixed and is modified either by the situation in flight or by the interactions of a new crew

625. 5,679 040 03 04 03 Co-operation

What characterises the notion of role ?

- [x] The function and behaviour associated with the particular role
- [ ] Only the functions associated with role
- [ ] The characteristic behaviour associated with the description of the various roles of a particular status
- [ ] The hierarchical position of the function and the associated behaviour

626. 5,686 040 03 04 03 Co-operation

What is synergy in a crew ?

- [x] The coordinated action of all members towards a common objective, in which collective performance is proving to be more than the sum of the individual performances
- [ ] A behavioural expedient associated with the desynchronisation of the coordinated actions
- [ ] The coordinated action of unrelated individual performances in achieving a non-standard task
- [ ] The uncoordinated action of the crewmembers towards a common objective

627. 6,907 040 03 04 03 Co-operation

Safety is often improved by applying the principles of CRM, e.g.:

- [x] expression of one's doubts or different opinion for as long as this doubt can not be rejected on the base of evidence
- [ ] unquestioned obedience to all the Captain's decisions
- [ ] abstention from any suggestion which might be untimely
- [ ] the avoidance of any conflict in order to preserve the crew's synergy

628. 6,908 040 03 04 03 Co-operation

An efficient flight deck (synergetic cockpit) will be observed when:

- [x] decisions are taken by the Captain with the help and participation of the other crew members
- [ ] the plan of action is defined by the Captain because of his experience level
- [ ] the Captain delegates the decision making process to other crew members
- [ ] decisions do not need to be discussed because of a common synergy between the crew members

629. 6,909 040 03 04 03 Co-operation

An non-synergetic cockpit :

- [x] is characterised by withdrawn crewmembers and unclear communication
- [ ] is characterised by a highly efficient crew, communicating appropriately with the outside
- [ ] always results from an over-relaxed atmosphere
- [ ] is not very dangerous as each person checks everything personally

630. 6,913 040 03 04 03 Co-operation

CRM (Crew Resource Management) training is:

- [x] intended to develop effectiveness of crew performance by improving attitudes towards flight safety and human relationship management
- [ ] not intended to change the individual's attitude at all
- [ ] intended solely to alter an individual's personality;
- [ ] is mainly of relevance to pilots with personality disorders or inappropriate attitudes

631. 2,685 040 03 04 04 Communication

Which combination of elements guarantee the understanding of a message without adding new information to it?

- [x] Feedback.
- [ ] Coding.
- [ ] Synchronization.
- [ ] Encoding.

632. 2,690 040 03 04 04 Communication

The process of responding to a sender by confirming the reception of a message is called

- [x] feedback
- [ ] redundancy
- [ ] synchronization
- [ ] transference

633. 2,743 040 03 04 04 Communication

What does not apply to a constructive and helpful feedback?

- [x] Feedback should always state bluntly the personal failings of the receiver
- [ ] It should be individually tailored to the receiver's background
- [ ] It should be formulated subjectively and personally ('I' instead of 'one')
- [ ] It should be actual and specify in regard to the concerned situation

634. 2,744 040 03 04 04 Communication

Which statement is correct?

- [x] Problems in the personal relation between crew members very likely hamper their communication process.
- [ ] There is no relation between inadequate communication and incidents or accidents.
- [ ] Inconsistent communication behaviour improves flight safety.
- [ ] Problems in the personal relation between crew members hardly hamper their communication process.

635. 2,745 040 03 04 04 Communication

What is the sender's frequent reason to communicate implicitly ('between the lines')?

- [x] Afterwards he/she always can claim to have been misunderstood.
- [ ] There is no need to make up one's mind before starting to communicate.
- [ ] The receiver grasps quickly what the sender means.
- [ ] He/she has not to adjust to the communication style of the communication partner.

636. 2,746 040 03 04 04 Communication

Metacommunication is defined as

- [x] communicating about the communication
- [ ] balancing the own ideas and interests with those of the interlocutor
- [ ] having an assessment conversation
- [ ] active listening

637. 2,748 040 03 04 04 Communication

An individually given feedback improves communication. Which of the following rules should a feedback comply with?

- [x] The feedback should always relate to a specific situation.
- [ ] The feedback should only be given if requested by the captain.
- [ ] The receiver of the feedback should immediately justify his behaviour.
- [ ] The feedback should not be referred to a concrete situation.

638. 2,749 040 03 04 04 Communication

Nonverbal communication

- [x] supports verbal communication
- [ ] is of no meaning in the cockpit
- [ ] is always used intentionally
- [ ] should be avoided by all means in the cockpit

639. 2,750 040 03 04 04 Communication

How do you understand the statement 'one cannot not communicate'?

- [x] Beeing silent as well as inactive are nonverbal behaviour patterns which express a meaning.
- [ ] Each situation requires communication.
- [ ] You cannot influence your own communication.
- [ ] The statement above is a missprint.

640. 2,751 040 03 04 04 Communication

Which elements of communication are prone to malfunctioning?

- [x] The sender and the receiver as well as coding and decoding
- [ ] Coding and decoding
- [ ] The sender
- [ ] The receiver

641. 2,752 040 03 04 04 Communication

Discussing private matters in the cockpit

- [x] can improve team spirit
- [ ] should be avoided by all means in the cockpit
- [ ] is appropriate in any phase of flight
- [ ] decreases the captains role of leadership

642. 3,413 040 03 04 04 Communication

Which of the following statements concerning communication is valid?

- [x] Professional communication means: using a restricted and specific language, tailored to minimize misunderstandings.
- [ ] Professional communication means to exchange information as little as possible.
- [ ] The syntax of communication is of little importance to its success. Only the words uttered are important.
- [ ] Communication must take priority over any other flight activity under all circumstances

643. 3,440 040 03 04 04 Communication

Of the following statements, select those which apply to " information" .
-1 : It is said to be random when it is not intended for receivers.
-2 : It is intended to reduce uncertainty for the receiver.
-3 : It is measured in bits.
-4 : Each bit of information reduces uncertainty by a quarter.

The correct statement(s) is (are):

- [x] 2 and 3 are correct
- [ ] 1,2,3 and 4 are correct
- [ ] 2,3 and 4 are correct
- [ ] only 1 is correct

644. 3,443 040 03 04 04 Communication

Success in achieving the objectives of a message requires:

- [x] the matching of verbal, non-verbal and contextual meanings
- [ ] differences in contexts for the sender and the receiver
- [ ] a form of the message, which should not match the expectation of the receiver
- [ ] different codes between form and meaning

645. 3,445 040 03 04 04 Communication

In order to make communication effective, it is necessary to:
-1 : avoid the synchronization of verbal and non-verbal channels.
-2 : send information in line with the receiver's decoding abilities.
-3 : always concentrate on the informational aspects of the message only.
-4 : avoid increasing the number of communication channels, in order to simplify communication.

The correct statement(s) is (are):

- [x] only 2 is correct
- [ ] 1,2 and 3 are correct
- [ ] 3 and 4 are correct
- [ ] 2 and 4 are correct

646. 3,446 040 03 04 04 Communication

Which of the following statements regarding interpersonal interactions are correct?
-1 If the sender finds the receiver competent, he/she tends to reduce verbal redundancy content of his sentences
-2 If the interlocuter is of non-native tongue, the sender will reinforce what he is saying by using more complicated words so as to optimize understanding
-3 If he/she finds him incompetent, he tends to simplify the content of sentences
-4 Simplification of check list in a crew who know each other essentially takes place in the case of interpersonal conflict

The correct statement(s) is (are):

- [x] 1 and 3 are correct
- [ ] 1 and 2 are correct
- [ ] 2 and 3 are correct
- [ ] 3 and 4 are correct

647. 3,448 040 03 04 04 Communication

Professional languages have certain characteristics, for example:
-1 : They use a limited vocabulary .
-2 : They are rich and adapted to the context, which sometimes lead to ambiguities.
-3 : Their grammar is rather complicated and complex.
-4 : Context provides meaning, therefor reduces the risk of ambiguities.

The correct statement(s) is (are):

- [x] 1 and 4 are correct
- [ ] 1 and 3 are correct
- [ ] 2 and 3 are correct
- [ ] only 4 is correct

648. 3,449 040 03 04 04 Communication

A study by NASA has examined the relationships between incidents linked with ground-to-crew communication. Which of the following factors is the main reason for disturbances in the correct reception of a message?

- [x] Listening errors.
- [ ] Errors in understanding clearance values.
- [ ] Radio failure.
- [ ] Mother tongue differing from working language.

649. 3,450 040 03 04 04 Communication

An increase in workload usually leads to:

- [x] a shorter and less frequent exchange of information
- [ ] a longer and less frequent exchange of information
- [ ] a shorter and more frequent exchange of information
- [ ] a longer and more frequent exchange of information

650. 3,451 040 03 04 04 Communication

With regard to communication in a cockpit, we can say that:

- [x] communication uses up resources, thus limiting the resources allocated to work in progress
- [ ] communication is always sufficiently automated to enable an activity with a high workload element to be carried out at the same time
- [ ] communication is only effective if messages are kept short and sufficiently precise to limit their number
- [ ] all the characteristics of communication, namely output, duration, precision, clarity, etc. are stable and are not much affected by changes in workload

651. 3,452 040 03 04 04 Communication

The intended recipient of a message must:
-1 : give priority and adapt to the sender's situation.
-2 : acknowledge the receipt only in case of doubt.
-3 : be able to reject or postpone a communication attempt if the pilot is too busy.
-4 : stabilize or finish a challenging manoeuvre before starting a discussion.

The combination of correct statements is:

- [x] 3 and 4 are correct
- [ ] 1,2 and 4 are correct
- [ ] 1 and 2 are correct
- [ ] 2 and 3 are correct

652. 3,455 040 03 04 04 Communication

Different non-technical related opinions between pilots from different cultural backgrounds might be seen in connection with:
-1 : the variations of technical training and skills.
-2 : communication problems.
-3 : conflicting ways of management.
-4 : interpersonal problems.

The combination of correct statements is:

- [x] 2,3 and 4 are correct
- [ ] 1, 2 and 4 are correct
- [ ] only 1 is correct
- [ ] 2 and 3 are correct

653. 3,456 040 03 04 04 Communication

The use of modern technology applied to glass-cockpit aircraft has:

☒ facilitated feedback from the machine via more concise data for communication on the flight deck

☐ considerably improved all the communication facilities of the crew

☐ reduced the scope for non-verbal communication in interpersonal relations

☐ improved man-machine communication as a result of flight sensations

654. 3,457 040 03 04 04 Communication

In a glass-cockpit aircraft, communication between the members of the crew:

☒ does not loose its importance

☐ will increase as a result of the increase of technical dissemination of information

☐ will be hampered by the decrease in actions brought about by technical improvements

☐ are facilitated from the non-verbal point of view owing to the increased availability wich results from technical lightening of the workload

655. 3,458 040 03 04 04 Communication

What are the communication qualities of a good briefing?
A good briefing must:
-1 : contain as much information and be as comprehensive as possible.
-2 : be of a standard type so that it can be reused for another flight of the same type.
-3 : be short and precise.
-4 : be understandable to the other crew member(s).

The correct statement(s) is (are):

☒ 2,3 and 4 are correct

☐ 1 and 2 are correct

☐ 1, 2 and 4 are correct

☐ 1 and 4 are correct

656. 3,493 040 03 04 04 Communication

With regard to the practice of English, which of the following statements is correct?

☒ All pilots should master it because the aeronautical world needs one common language.

☐ Be familiar with normal procedures in English since only this allows for effective management of any flight's communication.

☐ It is necessary and sufficient to have a command of any of the official languages of the ICAO.

☐ The composition of every crew should be geared to a command of the official aeronautical language of the destination country.

657. 5,663 040 03 04 04 Communication

Which of the following solutions represent antidotes to conflicts ?
1. Seeking arbitration
2. Actively listening to other people
3. Abandoning facts so as to move the conversation to a more emotional level
4. Becoming aware of cultural influences

- [x] 1,2,4
- [ ] 1,2,3
- [ ] 2,3,4
- [ ] 2,4

658. 5,687 040 03 04 04 Communication

Which of the following statements concerning conflicts is correct ?

- [x] Conflict management involves the participation of all involved parties in finding an acceptable collective solution
- [ ] Whatever the cause of the conflict, its resolution must necessarily involve an additional party if it is to be effective
- [ ] Conflicts are negative in themselves and can only lead to a general detachment of involved parties
- [ ] The emergence of a conflict always results from calling into question the general abilities of one of the involved parties

659. 3,435 040 03 05 00 Personality

With regard to the average influence of age on pilot performance, it may be said that age:

- [x] has little impact when the pilot is able to compensate for it by his/her flight experience
- [ ] sharply reduces performance without, however, affecting cognitive capabilities
- [ ] has a major impact owing to the impairment of memory
- [ ] increases in impact as speed of thought and memory deteriorate

660. 2,677 040 03 05 01 Personality and attitudes

Attitudes are defined as:

- [x] tendencies to respond to people, institutions or events either positively or negatively
- [ ] the conditions necessary for carrying out an activity
- [ ] the genetic predispositions for thinking and acting
- [ ] a synonym for behaviour

661. 2,712 040 03 05 01 Personality and attitudes

Which of the following behaviours is most disruptive to teamwork under high workload conditions in the cockpit?

- [x] Mentally absent.
- [ ] Sensitive.
- [ ] Disciplined.
- [ ] Jovial.

662. 5,683 040 03 05 01 Personality and attitudes

Contrary to a person's personality, attitudes:

- [x] Are the product of personal disposition and past experience with reference to an object or a situation
- [ ] form part of personality and that, as a result, they cannot be changed in an adult
- [ ] are non-evolutive adaptation procedures regardless of the result of the actions associated with them
- [ ] are essentially driving forces behind changes in personality

663. 5,684 040 03 05 01 Personality and attitudes

Which of the following elements make up the personality of an individual ?
1. Heredity
2. Childhood environment
3. Upbringing
4. Past experience

- [x] 1,2,3,4
- [ ] 1,2,4
- [ ] 2,3
- [ ] 2,3,4

664. 6,912 040 03 05 01 Personality and attitudes

The effectiveness of the individual depends on:

- [x] the ability to balance the dictates of the individual's needs and the demands of reality
- [ ] the ability to repress the dictates of needs
- [ ] the ability to go beyond one's own capabilities
- [ ] the total independence with respect to the environment

665. 2,708 040 03 05 02 Individual differences in personality

Very high ambition and need for achievement

- [x] disturbe the climate of cooperation
- [ ] fulfil the requirements of stress resistance
- [ ] always promote teamwork
- [ ] improves the coping process with personal failures

666. 2,711 040 03 05 02 Individual differences in personality

Which of the following personality characteristics makes crew decision making most effective?

- [x] Assertiveness.
- [ ] Competitiveness.
- [ ] General intelligence.
- [ ] Friendliness.

667. 2,713 040 03 05 02 Individual differences in personality

A copilot has passed an upgrading course to become a captain. Which psychological consequence is most likely?

- [x] His/her self-concept is going to change because of new roles and tasks which have to be incorporated.
- [ ] His/her self -concept is going to be stabilized because of the higher status as a captain.
- [ ] The increased command authority leads to a higher professionalism.
- [ ] An upgrading does not have any of the mentioned psychological consequences.

668. 3,553 040 03 05 03 Identification of hazardous attitudes (error proneness)

Which of the following responses lists most of the common hazardous thought patterns (attitudes) for pilots to develop?

- [x] Anti-authority, impulsiveness, invulnerabilty, resignation, machismo complex
- [ ] Invulnerability, underconfidence, avoidance of making decisions, lack of situational awareness
- [ ] Machismo complex, resignation, confidence, self critcism
- [ ] Resignation, confidence, inattention

669. 4,135 040 03 05 03 Identification of hazardous attitudes (error proneness)

Which of the following is NOT an hazardous attitude?

- [x] Domination
- [ ] Macho
- [ ] Anti-authority
- [ ] Impulsivity

670. 2,703 040 03 06 01 Arousal

The relationship between arousal and flying performance is

- [x] approximately the form of an inverted U
- [ ] approximately linear increasing
- [ ] approximately exponential
- [ ] approximately sinusoidal

671. 2,704 040 03 06 01 Arousal

in a complex task high levels of arousal

- [x] narrow the span of attention
- [ ] improve performance
- [ ] lead to better decision-making
- [ ] reduce failures

672. 2,720 040 03 06 01 Arousal

A high level of motivation is related

- [x] to high levels of arousal
- [ ] to high levels of intelligence
- [ ] to complacency
- [ ] to monotony states

673. 3,555 040 03 06 01 Arousal

If during flight a pilot is in a mental condition of " optimum arousal" he/she will be:

- [x] prepared best to cope with a difficult task
- [ ] unprepared to handle a difficult situation
- [ ] approaching a condition of complacency or fatigue
- [ ] in a confused mental state

674. 8,431 040 03 06 01 Arousal

An identical situation can be experienced by one pilot as exciting in a positive sense and by another pilot as threatening. In both cases:

- [x] the arousal level of both pilots will be raised
- [ ] both pilots will loose their motor-coordination
- [ ] both pilots will experience the same amount of stress
- [ ] the pilot feeling threatened, will be much more relaxed, than the pilot looking forward to what may happen

675. 8,461 040 03 06 01 Arousal

Please check the following statements:
1. A stressor causes activation
2. Activation stimulates a person to cope with it

- [x] 1 and 2 are both correct
- [ ] 1 is correct, 2 is not correct
- [ ] 1 is not correct, 2 is correct
- [ ] 1 and 2 are both not correct

676. 426 040 03 06 02 Stress

What are easily observable indications of stress?

- [x] Perspiration, flushed skin, dilated pupils, fast breathing.
- [ ] Lowering of the blood pressure.
- [ ] Faster, deep inhalation, stabbing pain around the heart.
- [ ] Rising of the blood pressure, pupils narrowing, stabbing pain around the heart.

677. 3,414 040 03 06 02 Stress

Which of the following statements is true?

- [x] Stressors accumulate thus increasing the likelihood to exhaustion.
- [ ] Stressors are independent from each other.
- [ ] Stress should always be avoided under any circumstances.
- [ ] People are capable of living without stress.

678. 3,415 040 03 06 02 Stress

How should a pilot react, when suffering from chronic stress?

- [x] Attempt to reduce the stress by using a concept which approaches the entire body and improves wellness.
- [ ] Use moderate administration of tranquillizers before flight.
- [ ] Ignore the particular stressors and increase your physical exercises.
- [ ] Always consult a psychotherapist before the next flight.

679. 3,416 040 03 06 02 Stress

In case of in-flight stress, one should :

- [x] use all available resources of the crew
- [ ] only trust in oneself; beeing sure to know the own limits
- [ ] demonstrate aggressiveness to stimulate the crew
- [ ] always carry out a breathing exercise

680. 3,417 040 03 06 02 Stress

The behavioural effects of stress may include :
-1 : manifestation of aggressiveness.
-2 : a willingness to improve communication.
-3 : a willingness for group cohesion.
-4 : a tendency to withdrawl.
-5 : inappropriate gestural agitation.

The combination of correct statements is :

- [x] 1,4 and 5 are correct
- [ ] 1 and 4 are correct
- [ ] 1,2 and 3 are correct
- [ ] 2,4 and 5 are correct

681. 3,418 040 03 06 02 Stress

The cognitive effects of stress may include :
-1 : excessive haste.
-2 : an improvement in memory.
-3 : a complete block: action is impossible.
-4 : a risk of focusing on a particular aspect.
-5 : ease of decision-making.
-6 : an increase in the rate of mistakes.

The combination which brings together all correct statements is :

☒ 1,3,4,6

☐ 1,2,5

☐ 2,3,5,6

☐ 3,4,5

682. 3,419 040 03 06 02 Stress

What is the effect of stress on performance ?
-1 : It always reduces performance.
-2 : Optimum performance is obtained with optimum arousal.
-3 : Excessive stress weakens performance.
-4 : Insufficient stress weakens performance.

The combination of correct statements is:

☒ 2,3,4

☐ 1,2,3

☐ 1,3,4

☐ 1,2,4

683. 3,420 040 03 06 02 Stress

What are the characteristics of the alarm phase of the stress reactions?
-1 : increased arousal level as a result of adrenaline secretion.
-2 : an increase in heart rate, respiration and release of glucose.
-3 : a decrease in stress resistance.
-4 : activation of the digestive system.
-5 : secretion of cortisol to mobilize attention.

The combination of correct statements is:

☒ 1,2,3

☐ 1,2

☐ 2,4,5

☐ 1,3,5

684. 3,421 040 03 06 02 Stress

What are the three phases of General Adaptation Syndrome ?

☒ Alarm, resistance, exhaustion.

☐ Alert, resistance, performance.

☐ alarm, resistance, performance,

☐ alert, resistance, exhaustion

685. 3,422 040 03 06 02 Stress

The organism is mobilized by a process known as:

☒ GAS : General Adaptation Syndrome

☐ NAS : Natural Adaptation Syndrome

☐ GMS : General Mobilization Syndrome.

☐ GAF : General Adaptation Function.

686. 3,423 040 03 06 02 Stress

What is the most decisive factor in regard to a very demanding stress situation?

☒ The subjective evaluation of the situation by the individual.

☐ The time available to cope with the situation.

☐ The objective threat of the situation.

☐ The unexpected outcome of the situation.

687. 3,424 040 03 06 02 Stress

Stress appears:
-1 : only in a situation of imminent danger.
-2 : only when faced with real, existing and palpable phenomenon.
-3 : sometimes via imagination, the anticipation of a situation or its outcome.
-4 : because of the similarity with a formerly experienced stressful situation.

The correct statement(s) is (are):

☒ 3,4

☐ 1,2

☐ 2, 3

☐ 1,2,4

688. 3,425 040 03 06 02 Stress

Cognitive evaluation which leads to stress is based on:

☒ the evaluation of the situation and the evaluation of capabilities to cope with it

☐ the evaluation of the situation and the the state of fatigue of the individual

☐ the evaluation of the capabilities of the individual and the time available

☐ the capabilities of the individual and the solutions provided by the environment

689. 3,426 040 03 06 02 Stress

Which of the following physical stimuli may cause stress reactions?
-1 : noise.
-2 : interpersonnal conflict.
-3 : temperature.
-4 : administrative problem.
-5 : hunger.

The combination of correct statements is:

☒ 1,3,5

☐ 1,3,4

☐ 3,4,5

☐ 2,3,5

690. 3,427 040 03 06 02 Stress

Which of the following statements concerning stress is correct?

☒ Stress will be evaluated differently depending on whether it improves or reduces performance.

☐ Stress always creates a state of high tension which decreases cognitive and behavioural performance.

☐ Stress is evaluated as a positiv mechanism only in connection with precise tasks of the kind encountered in aeronautics

☐ Stress is a necessary way of demonstrating one's own work.

691. 3,428 040 03 06 02 Stress

Acute stress quickly leads to

☒ the mobilization of resources required to cope with the stressor

☐ a decrease in the amount of resources mobilized to face the situation

☐ a permanent state of incapacitation

☐ a state of overactivation beyond the control of willpower

692. 3,430 040 03 06 02 Stress

The resistance phase of stress reaction is characterized by:
-1 : activation of the autonomic nervous system (ANS).
-2 : testosterone secretion which enables fats to be converted into sugar.
-3 : a sudden fall in stress resistance.
-4 : the appearance of psychosomatic disorders when lasting over a prolonged time.
The combination of correct statements is:

☒ 1 and 4 are correct

☐ 1,2 and 3 are correct

☐ 2 , 3 and 4 are correct

☐ 3 and 4 are correct

693. 3,431 040 03 06 02 Stress

Stress may be defined as:

- [x] a normal phenomenon which enables an individual to adapt to encountered situations
- [ ] a poorly controlled emotion which leads to a reduction in capabilities
- [ ] a psychological phenomenon which only affects fragile personalities
- [ ] a human reaction which one must manage to eliminate

694. 3,432 040 03 06 02 Stress

What is a stressor?

- [x] An external or internal stimulus which is interpreted by an individual as beeing stressful
- [ ] All external stimulation are stressors since they modify the internal equilibrium
- [ ] A psychological problem developed in a situation of danger
- [ ] The adaptation response of the individual to his environment

695. 3,433 040 03 06 02 Stress

What triggers stress in humans?

- [x] The subjective interpretation an individual gives to a situation experienced
- [ ] Objective stimulation from the environment regards of subjective perceptions
- [ ] Only strong excitations of the sensory organs: a flash of light, noise, the smell of smoke
- [ ] Always the awareness of an emotion and a physiological activation (e. g. rapide heart rate)

696. 3,552 040 03 06 02 Stress

In relation to the word ´stress´ as it affects human beings, which of the following responses is correct?

- [x] ´Stress´is a term used to describe how a person reacts to demands placed upon him/her.
- [ ] All forms of stress should be avoided.
- [ ] Reactive stressors relate purely to a pilot´s physical condition.
- [ ] Self imposed obligations will not create stress.

697. 4,136 040 03 06 02 Stress

Pilot stress reactions :

- [x] differ from pilot to pilot, depending on how a person manages the particular stressors
- [ ] seem to be always the same for most pilots
- [ ] are related to an internationally recognized list of stressors where the top-ten items should be avoided by all means
- [ ] do not change with the environment or different situations but mainly with the characters themselves

698. 4,156 040 03 06 02 Stress

Fixation or tunnel vision is primarily to be expected when :

- [x] stress is high
- [ ] stress is medium
- [ ] stress and motivation are medium
- [ ] stress and motivation are low

699. 5,639 040 03 06 02 Stress

Which of the following statements in regard to motivation is correct?

- [x] Extremely high motivation in combination with excessive stress will limit attention management capabilities
- [ ] Too much motivation may result in hypovigilance and thus in a decrease in attention
- [ ] Motivation will reduce the task automation process
- [ ] Low motivation will guarantee adequate attention management capabilities

700. 5,642 040 03 06 02 Stress

What are the effects of distress (overstress) ?

- [x] It increases vigilance for a longer period than stress itself, but may focus attention
- [ ] It reduces vigilance and focusses attention
- [ ] It activates resources stored in memory
- [ ] It has very little immediate effect on vigilance and attention

701. 5,737 040 03 06 02 Stress

The maintenance of man's internal equilibrium is called :

- [x] Homeostasis
- [ ] Heterostasis
- [ ] Homeothermy
- [ ] Poikilothermy

702. 6,857 040 03 06 02 Stress

Workload essentially depends on:

- [x] the current situation, the pilot's expertise and the ergonomics of the system
- [ ] the pilot's experience and the ergonomics of the system
- [ ] the pilot's knowledge
- [ ] the task and the day's parameters (weather report, aircraft load, type of flight, etc)

703. 6,862 040 03 06 02 Stress

Stress is above all :

- [x] the best adaptation phenomenon that man possesses for responding to the various situation which he may have to face
- [ ] a psychosomatic disease that one can learn to control
- [ ] a response by man to his problems, which automatically leads to a reduction in his performance
- [ ] a phenomenon which is specific to modern man

704. 6,863 040 03 06 02 Stress

Experiencing stress depends on:

- [x] the individual interpretation of the situation
- [ ] the fragility of individuals to certain types of stimulation
- [ ] the individual's state of tiredness
- [ ] the environment of the situation which the individual will live through or is in the process of living through

705. 6,864 040 03 06 02 Stress

Stress is a reaction to adapt a specific situation.
This reaction

- [x] may include various psychological and physiological elements which one can learn to manage
- [ ] is always linked to excessive fear
- [ ] can only be controlled by medical treatment
- [ ] is purely physiological and automatic

706. 6,867 040 03 06 02 Stress

The individual's perception of stress depends on:

- [x] the subjectiv evaluation of the situation and one's abilities to cope with it
- [ ] the objectiv evaluation of the situation and one's abilities to cope with it
- [ ] the pilot's increasing level of arousal
- [ ] the conditions of the current situation only

707. 6,868 040 03 06 02 Stress

Stress is a response which is prompted by the occurence of various stressors. Of these, which can be called physiological ?

- [x] Noise, temperature (low or high), humidity, sleep deprivation
- [ ] Noise, hunger, conflicts, a death
- [ ] Heat, humidity, fatique, administrative problems
- [ ] Temperature, hunger, thirst, divorce

708. 6,869 040 03 06 02 Stress

General Adaptation Syndrome is characterised by the following phases :
-1 : alarm
-2 : alert phase
-3 : resistance phase
-4 : exhaustion phase
-5 : vigilance phase

- [x] 1,3,4
- [ ] 2,3,4
- [ ] 1,2,4,5
- [ ] 2,3,4,5

709. 8,422 040 03 06 02 Stress

A stress reaction is:

- [x] the non-specific response of the body to every demand placed on a person
- [ ] the specific response of the body to every demand placed on a person
- [ ] the non-specific stimuli causing a human body to respond
- [ ] the specific stimuli causing a human body to respond

710. 8,423 040 03 06 02 Stress

A person being exposed to extreme or prolonged stress factors can perceive:

- [x] distress (stress reactions)
- [ ] coping stress
- [ ] eustress
- [ ] stressors

711. 8,424 040 03 06 02 Stress

Getting uneasy will effect:
1. attention
2. concentration
3. memory
4. prudence

- [x] 1, 2, 3 and 4 are correct
- [ ] 1 and 2 are correct
- [ ] 1 and 3 are correct
- [ ] 2, 3 and 4 are correct

712. 8,425 040 03 06 02 Stress

The biological reaction to stress is identical regardless of the cause of stress. This mechanism occurs in three phases and is referred to, by Selye, as the " General Adaptation Syndrome" .
The sequence is:

- [x] alarm phase - resistance phase - exhaustion phase
- [ ] alarm phase - denial phase - exhaustion phase
- [ ] exhaustion phase - resistance phase - adaptation phase
- [ ] resistance phase - exhaustion phase - recovery phase

713. 8,426 040 03 06 02 Stress

According to the different phases of the " General Adaptation Syndrom" check the following statements:
1. During the alarm phase stress hormones (i.e. adrenalin) will cause a massiv release of glucose into the blood, an acceleration of pulse and blood pressure as well as an increase in the rate and depth of breathing
2. During the resistance phase the parasympathetic system uses a different type of hormone (cortisol) assisting to convert fat into sugar thus providing sufficient energy supply to the brain and body cells for sustained operation.
3. During the exhaustion phase the body has to be given time to eliminate the waste products which have been generated excessively during the two preceeding phases,

- [x] 1,2 and 3 are correct
- [ ] 1 and 2 are correct, 3 is false
- [ ] only 1 is correct
- [ ] 2 and 3 are correct, 1 is false

714. 8,428 040 03 06 02 Stress

1. Adaptation is a new state of equilibrium after having coped with a stressful situation.
2. An individual's prospect of the situation and his/her abilities to cope with it will determine the type and strength of stress.

- [x] 1 and 2 are both correct
- [ ] 1 is correct, 2 is false
- [ ] 1 is false, 2 is correct
- [ ] 1 and 2 are both false

715. 8,429 040 03 06 02 Stress

Learning to fly naturally induces stress in a student pilot because he is lacking experience. Manifestations of this type of stress are:
1. nervousness and chanellized attention
2. being rough at the controls
3. smoke and drink much more alcohol than usual
4. airsickness, lack of sleep

- [x] 1 and 2 are correct, 3 and 4 are false
- [ ] 1 and 2 are false, 3 and 4 are correct,
- [ ] 1, 2 and 3 are correct, 4 is false
- [ ] 1, 2 and 4 are correct, 3 is false

716. 8,430 040 03 06 02 Stress

The level at which a pilot will experience a situation as stressful

- [x] depends on the individual's perception of available abilities in comparison to the situational demands
- [ ] does not depend on his capacity to absorb information
- [ ] depends on the level of demand but not on individual interpretation of the situational demands
- [ ] depends on self-confidence alone

717. 8,433 040 03 06 02 Stress

Please check the following statements:
1. Psychosomatic means that mental and/or emotional stressors can be manifested in organic stress reactions.
2. Psychosomatic means that a physical problem is always followed by psychological stress.

- [x] 1 is correct, 2 is false
- [ ] 1 and 2 are both correct
- [ ] 1 is false, 2 is correct
- [ ] 1 and 2 are both false

718. 8,434 040 03 06 02 Stress

1. Psychosomatic means that a physiological problem is followed by psychological stress.
2. Psychosomatic complaints hardly occur in professional aviation because of the strict selection for this particular profession .

- [x] 1 and 2 are both not correct
- [ ] 1 and 2 are both correct
- [ ] 1 is correct 2 is not correct
- [ ] 1 is not correct 2 is correct

719. 2,696 040 03 06 03 Fatigue

A fatigued pilot

- [x] will show signs of increased irritability
- [ ] is acting similar as when encountering a state of depression
- [ ] will get precordial pain
- [ ] considerably increases the ability to concentrate

720. 5,657 040 03 06 03 Fatigue

What is the effect of tiredness on attention ?

- [x] It reduces the ability to manage multiple matters
- [ ] It increases the ability to manage multiple matters
- [ ] It leads to one's attention being dispersed between different centres of interest
- [ ] It has no specific effects on attention

721. 5,658 040 03 06 03 Fatigue

Which of the following statements concerning tiredness is correct ?

- [x] Tiredness is a subjective sensation which is reflected in hypovigilance or in poor management of intellectual capabilities
- [ ] Tiredness is always the result of an intellectual overload
- [ ] Tiredness is the consequence of a diminution of performance
- [ ] Tiredness is an objective psychophysiological symptom of a reduction in attention capabilities

722. 422 040 03 06 04 Body rhythm and sleep

Flying from Frankfurt to Moscow you will have a lay-over of 4 days. What time measure is relevant for your circadian rhythm on the 3. day?

- [x] LT (local time).
- [ ] MEZ (middle european time).
- [ ] ZT (zonal time).
- [ ] UTC (universal time coordinated).

723. 465 040 03 06 04 Body rhythm and sleep

In order to completely resynchronise with local time after zone crossing, circadian rhythms require

- [x] less time when flying from east to west
- [ ] more time when flying from east to west
- [ ] about one day per 2.5 hours of time shift
- [ ] about one week per 2.5 hours of time shift

724. 2,693 040 03 06 04 Body rhythm and sleep

The readjustment of the biological rhythms after a time shift is normally more difficult

- [x] with flights towards the East
- [ ] with flights towards the West
- [ ] with flights towards the North
- [ ] with flights towards the South

725. 2,694 040 03 06 04 Body rhythm and sleep

During paradoxical sleep

- [x] rapid eye movements can be observed
- [ ] the tone of the muscles is similar to that in the waking state
- [ ] respiration is very regular
- [ ] the rhythm of the heart is very regular

726. 2,756 040 03 06 04 Body rhythm and sleep

The physiological rhythms of a pilot in a new time zone will resynchronise to this new time zone at a rate of about

- [x] 1 - 1.5 hours a day
- [ ] 2 - 2.5 hours a day
- [ ] 3 - 3.5 hours a day
- [ ] 4 - 4.5 hours a day

727. 2,757 040 03 06 04 Body rhythm and sleep

The duration of a period of sleep is governed primarily by

- [x] the point within your circadian rhythm at which you try to sleep
- [ ] the duration of your previous sleep
- [ ] the amount of time you have been awake
- [ ] the number of points you have in your 'credit/deficit' system

728. 5,552 040 03 06 04 Body rhythm and sleep

Of the following statements concerning the effects of circadian rhythms on performance, we know that :

- [x] Sensorimotor performance is better in the evening whereas intellectual performance is better in the morning
- [ ] Sensorimotor performance is better in the morning whereas intellectual performance is better in the evening
- [ ] Sensorimotor and intellectual performance are better in the morning and are sensitive to the duration of the sleep state
- [ ] Sensorimotor and intellectual performance are better in the evening and very sensitive to the duration of the waking period

729. 5,653 040 03 06 04 Body rhythm and sleep

In order to minimize the effects of crossing more than 3-4 time zones with a layover more than 24 hrs, it is advisable to :
1. Adapt as quickly as possible to the rhythm of the arrival country
2. Keep in swing with the rhythm of the departure country for as long as possible
3. Maintain regular living patterns (waking ,sleeping alternation and regular meal pattern)
4. Try to sleep as much as possible to overcome negative arousal effects

- [x] 2,3
- [ ] 1,3
- [ ] 2,4
- [ ] 1,4

730. 5,654 040 03 06 04 Body rhythm and sleep

Concerning circadian rhythm disruption (jet lag), the effects of adjustment to destination time :
1. are longer for western rather than eastern flights
2. are longer for eastern rather than western flights
3. vary little between individuals
4. may vary greatly between individuals

- [x] 2,4
- [ ] 1,3
- [ ] 1,4
- [ ] 2,3

731. 5,655 040 03 06 04 Body rhythm and sleep

What seem to be the main roles of deep sleep ?

- [x] It essentially allows for physical recovery and the reconstitution of neuron energy reserves
- [ ] It is confined to physical recuperation associated with fatigue
- [ ] Its main role is associated with activities of memory activities and restoration of attention capabilities
- [ ] Via physical recovery, it is characterised by an alternation of dream phases and paradoxical phases

732. 5,656 040 03 06 04 Body rhythm and sleep

What are the main effects of a lack of sleep loss on performance ?

- [x] It increases fatigue, concentration and attention difficulties, the risk of sensory illusions and mood disorders
- [ ] It increases fatigue and concentration difficulties, but facilitates stress management by muscular relaxation,
- [ ] It causes muscular spasms
- [ ] It reduces concentration and fatigue only with sleep loss greater than 48 hours

733. 8,412 040 03 06 04 Body rhythm and sleep

The human circadian rhythm is based on a cycle of about:

- [x] 24 hours
- [ ] 1.5 hours
- [ ] 12 hours
- [ ] 48 hours

734. 8,413 040 03 06 04 Body rhythm and sleep

Disturbance of the biological clock appears after a:
1. bad night's sleep
2. day flight Amsterdam - New York
3. day flight Amsterdam - Johannesburg
4. night flight New York - Amsterdam

- [x] 2 and 4 are correct
- [ ] 1,2 and 3 are correct
- [ ] 1 and 3 are correct
- [ ] 1,2,3 and 4 are correct

735. 8,416 040 03 06 04 Body rhythm and sleep

Sleeplessness or the disruption of sleeping patterns
1. can lead to symptoms of drowsiness, irritability and lack of concentration
2. will make an individual more prone to make errors

- [x] 1 and 2 are both correct
- [ ] 1 is not correct, 2 is correct
- [ ] 1 is correct, 2 is not correct
- [ ] 1 and 2 are both not correct

736. 8,418 040 03 06 04 Body rhythm and sleep

Check the following statements:
1. A person experiencing sleep loss is unlikely to be aware of personal performance degradation
2. Performance loss may be present up to 20 minutes after awaking from a short sleep (nap)

- [x] 1 and 2 are both correct
- [ ] 1 is correct 2 is false
- [ ] 1 is false, 2 is correct
- [ ] 1 and 2 are both false

737. 8,419 040 03 06 04 Body rhythm and sleep

The sleep cycles repeat during the course of a night's sleep.
1. Each succeeding cycle contains a greater amount of REM-sleep.
2. Frequent interruption of the REM-sleep can harm a human being in the long run.

- [x] 1 and 2 are both correct
- [ ] 1 is correct 2 is not correct
- [ ] 1 is not correct 2 is correct
- [ ] 1 and 2 are both not correct

738. 8,421 040 03 06 04 Body rhythm and sleep

1. REM-sleep becomes shorter with any repeated sleep cycle during the night.
2. REM-sleep is more important for the regeneration of mental and physical functions than all the other sleep stages are.

- [x] 1 is not correct 2 is correct
- [ ] 1 and 2 are both correct
- [ ] 1 is correct 2 is not correct
- [ ] 1 and 2 are false

739. 460 040 03 06 05 Fatigue and stress management

Stress management programmes usually involve:

- [x] the prevention and/or the removal of stress
- [ ] only the removal of stress
- [ ] only the prevention of stress
- [ ] the use of psychoactive drugs

740. 512 040 03 06 05 Fatigue and stress management

Using a checklist prior start is a contribution to

- [x] safety, because the concentration on the check list items will draw the pilot´s attention to flight related tasks, reducing distraction from personal stress
- [ ] stress, because time pressure prior take-off is always present
- [ ] workload, because using checklists will increase the pilot´s workload prior take-off
- [ ] frustration

741. 513 040 03 06 05 Fatigue and stress management

The human performance is generally

- [x] better when relaxed, independent of the period of day
- [ ] better very early in the morning
- [ ] always better in the evening than in the morning
- [ ] constant throughout the day

742. 5,725 040 03 06 05 Fatigue and stress management

What are the main strategies for adapting to time constraints ?

- [x] The preparation of action and the prioritisation of tasks
- [ ] The preparation of action and time management
- [ ] The prioritisation of tasks and the application of procedures
- [ ] The preparation of action and the application of procedures

743. 8,427 040 03 06 05 Fatigue and stress management

If coping with a stress situation is impossible, one will remain in the state of:

- [x] distress
- [ ] adaptation
- [ ] hypoxia
- [ ] eustress

744. 5,624 040 03 07 00 Advanced cockpit automation

The performance of the man machine system is above all :

- [x] a combination which is based on decreasing the pilot's workload and increasing his time for supervision
- [ ] a balanced combination between someone actively engaged in his work and automated systems which serve to control the pilot's workload
- [ ] a combination which must make the pilot available for the sphere in which he is most qualified, namely checking departures from the normal operating range
- [ ] a combination in which the pilot must keep the main repetitive tasks and automated systems under his control in line with rule-based behaviour

745. 5,609 040 03 07 01 Advantages and disadvantages (criticalities)

Which of the following operations are performed more effectively by people than by automatic systems ?
1. Qualitative decision-making
2. Waiting for an infrequent phenomenon
3. Monitoring to ensure that certain values are not exceeded
4. Detections of unusual conditions (smell, noise, etc.)

- [x] 1,4
- [ ] 1,2
- [ ] 3,4
- [ ] 2,3,4

746. 5,610 040 03 07 01 Advantages and disadvantages (criticalities)

Which of the following operations are performed more effectively by automatic systems than by people ?
1. Waiting for an infrequent phenomenon
2. Long term controlling of a set value (e.g holding of trajectory)
3. Monitoring to ensure that certain values are not exceeded (e.g holding of flight path)
4. Qualitative decision-making

- [x] 1,2,3
- [ ] 2,4
- [ ] 3,4
- [ ] 2,3,4

747. 5,626 040 03 07 01 Advantages and disadvantages (criticalities)

Which of the following drawbacks are associated with automation ?
1. Reduced competence in manually controlling the aircraft
2. Increased likelihood of slips while programming automatic systems
3. Difficulties in adapting to the use of a sidestick
4. General decrease in technical reliability

- [x] 1,2
- [ ] 1,4
- [ ] 2,3,4
- [ ] 1,3

748. 6,871 040 03 07 01 Advantages and disadvantages (criticalities)

If man is compared with a computer, it can be said that man :

- [x] has more effective means of action (output) and is above all capable of considerable synergy
- [ ] has less effective means of action (output) than the computer
- [ ] has less effective means of data collection than the computer
- [ ] is relatively limited compared with a computer, that means of data collection or means of action are referred to

749. 2,716 040 03 07 02 Automation complacency

How can a pilot avoid automation complacency?

- [x] Regard the automatic system as additional crew members that needs to be crosschecked as well
- [ ] Always try to enhance your aviation related knowledge during low workload periods
- [ ] Always fly the whole flight manually to remain in man-machine loop
- [ ] Nothing, because it is system-inherent

750. 2,724 040 03 07 02 Automation complacency

A high degree of cockpit automation may alter the traditional tasks of the pilots in a way, that

- [x] the attention of the cockpit crew will become reduced with the consequence of 'being out of the loop'
- [ ] it is guaranteed that the crew maqintains always situational awareness
- [ ] Crew Coordination can be neglected on long haul flights without compromizing safety
- [ ] the crew can pay more attention to solve the problem in an abnormal situation without monitoring the automatic systems

751. 4,140 040 03 07 02 Automation complacency

One negative aspect of the highly automated cockpit results in :

- [x] complacency among the crewmembers
- [ ] pilots disregarding the automatic equipment
- [ ] constantly high crew overload with regard to the monitoring tasks
- [ ] less experienced crews because of more transparent system details

752. 5,622 040 03 07 03 Working concepts

As a result of automation in cockpits,

- [x] communication and coordination call for an even greater effort on the part of the crew members
- [ ] man-man communication has been significantly improved
- [ ] coordination between the members is facilitated by the provision of more precise and more important information
- [ ] communication and coordination have clearly improved in man-man and man-machine relations