

Human Factors

TEST PREP

1

A colorless, odorless, and tasteless substance, produced by a combustion engine, is called:

- a. Nitrogen.
- b. Carbon monoxide.
- c. Oxygen.

2

A pilot experiencing the effects of hyperventilation should be able to restore the proper carbon dioxide level in the body by

- a. breathing spontaneously and deeply or gaining mental control of the situation.
- b. slowing the breathing rate, breathing into a paper bag, or talking aloud.
- c. increasing the breathing rate in order to increase lung ventilation.

3

The danger of spatial disorientation during flight in poor visual conditions may be reduced by

- a. having faith in the instruments rather than taking a chance on the sensory organs.
- b. shifting the eyes quickly between the exterior visual field and the instrument panel.
- c. leaning the body in the opposite direction of the motion of the aircraft.

4

Which of the substances below almost always negatively affect your flying performance?

- a. Antibiotics.
- b. Over-the-counter analgesics.
- c. Prescription analgesics.

5

What is the first step in a Decide Model?

- a. Evaluate.
- b. Identify.
- c. Detect.

6

A pilot should be able to overcome the symptoms or avoid future occurrences of hyperventilation by

- a. increasing the breathing rate in order to increase lung ventilation.
- b. closely monitoring the flight instruments to control the airplane.
- c. slowing the breathing rate, breathing into a bag, or talking aloud.

7

What does the 'V' stand for in the 'PAVE' checklist?

- a. Environment
- b. Vector
- c. Vertical

8

The lack of sufficient oxygen to the body resulting in impairment is:

- a. Hypoxia.
- b. Hyperventilation.
- c. Carbon monoxide poisoning.

9

In the aeronautical decision making (ADM) process, what is the first step in neutralizing a hazardous attitude?

- a. Making a rational judgement.
- b. Recognizing the invulnerability of the situation.
- c. Recognizing hazardous thoughts.

10

What is the antidote when a pilot has a hazardous attitude, such as 'Invulnerability'?

- a. It can not be that bad.
- b. It will not happen to me.
- c. It could happen to me.

11

What is the antidote when a pilot has a hazardous attitude, such as 'Resignation'?

- a. What is the use.
- b. Someone else is responsible.
- c. I am not helpless.

12

If a pilot ignores fuel reserve requirements, the situation might be caused by:

- a. Lack of flight planning.
- b. Physical stress.
- c. Impulsivity.

13

How soon after the conviction for driving while intoxicated by alcohol or drugs shall it be reported to the FAA, Civil Aviation Security Division?

- a. Required to be reported upon renewal of medical certificate.
- b. No later than 30 working days after the motor vehicle action.
- c. No later than 60 days after the motor vehicle action.

14

Which of the following is the first step of the DECIDE Model for effective risk management and Aeronautical Decision Making?

- a. Decision
- b. Do
- c. Detect

15

Which of the following are true regarding a hangover caused by prior alcohol consumption?

- a. A hangover means the pilot is no longer under the influence of alcohol.
- b. Motor and mental response impairment is still present
- c. Hangovers do not affect a pilot's judgment.

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What does the 'A' stand for in the 'PAVE' checklist?

- a. Aviator
- b. Aircraft
- c. Airspeed

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Rapid or extra deep breathing while using oxygen can cause a condition known as

- a. hyperventilation.
- b. aerosinusitis.
- c. aerotitis.

18

Responsibility for collision avoidance in an alert area rests with

- a. Air Traffic Control.
- b. all pilots.
- c. the controlling agency.

19

A pilot who tries to exhibit "the right stuff", can affect safety by:

- a. A total disregard for any alternative course of action.
- b. Generating tendencies that lead to practices that are dangerous, often illegal, and may lead to a mishap.
- c. Allowing events, or the situation, to control his or her actions.

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What is the antidote when a pilot has a hazardous attitude, such as 'Antiauthority'?

- a. I know what I am doing.
- b. Rules do not apply in this situation.
- c. Follow the rules.

21

If a pilot experiences spatial disorientation during flight in a restricted visibility condition, the best way to overcome the effect is to

- a. consciously slow the breathing rate until symptoms clear and then resume normal breathing rate.
- b. rely upon the aircraft instrument indications.
- c. concentrate on yaw, pitch, and roll sensations.

22

A pilot who allows himself to get behind the aircraft, can cause:

- a. Internal stress.
- b. A loss of workload.
- c. A loss of situational awareness.

23

A state of temporary confusion resulting from misleading information being sent to the brain by various sensory organs is defined as

- a. hyperventilation.
- b. hypoxia.
- c. spatial disorientation.

24

When operating an aircraft at cabin pressure altitudes above 12,500 feet MSL up to and including 14,000 feet MSL, supplemental oxygen shall be used during

- a. that flight time in excess of 10 minutes at those altitudes.
- b. the entire flight time at those altitudes.
- c. that flight time in excess of 30 minutes at those altitudes.

25

Hazardous attitudes occur to every pilot to some degree at some time. What are some of these hazardous attitudes?

- a. Poor situational awareness, snap judgments, and lack of a decision making process.
- b. Poor risk management and lack of stress management.
- c. Antiauthority, impulsivity, macho, resignation, and invulnerability.

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Which would most likely result in hyperventilation?

- a. An extremely slow rate of breathing and insufficient oxygen.
- b. The excessive consumption of alcohol.
- c. Emotional tension, anxiety, or fear.

27

What is the antidote when a pilot has a hazardous attitude, such as 'Impulsivity'?

- a. Do it quickly to get it over with.
- b. It could happen to me.
- c. Not so fast, think first.

28

Risk management, as part of the aeronautical decision making (ADM) process, relies on which features to reduce the risks associated with each flight?

- a. Situational awareness, problem recognition, and good judgment.
- b. The mental process of analyzing all information in a particular situation and making a timely decision on what action to take.
- c. Application of stress management and risk element procedures.

29

If you have alcohol present in your blood what effect might you expect to occur?

- a. Your vision acuity improves.
- b. Judgment and decision-making abilities are diminished.
- c. The higher you fly the less alcohols affects your senses.

30

Which statement best defines hypoxia?

- a. A condition of gas bubble formation around the joints or muscles.
- b. An abnormal increase in the volume of air breathed.
- c. A state of oxygen deficiency in the body.

31

The person who relies on memory for recurring tasks often neglects:

- a. Situation awareness.
- b. Flying outside the envelope.
- c. Checklists.

32

What would be a symptom of hyperventilation?

- a. Heightened awareness and feeling of well being.
- b. Decreased breathing rate and depth.
- c. A feeling of suffocation and drowsiness.

33

Unless each occupant is provided with supplemental oxygen, no person may operate a civil aircraft of U.S. registry above a maximum cabin pressure altitude of

- a. 14,000 feet MSL.
- b. 15,000 feet MSL.
- c. 12,500 feet MSL.

34

Large accumulations of carbon monoxide in the human body result in

- a. tightness across the forehead.
- b. loss of muscle power.
- c. an increased sense of well-being.

35

What is the antidote when a pilot has a hazardous attitude, such as 'Macho'?

- a. Taking chances is foolish.
- b. Nothing will happen.
- c. I can do it.

36

What are the six components of the 'IMSAFE' preflight checklist?

- a. Illness, Medication, Sleep, Acuity, Fatigue, Experience
- b. Identify, Medical, Sleep, Action, Flight, Environment
- c. Illness, Medication, Stress, Alcohol, Fatigue, Emotion

37

Eye movements during daytime collision avoidance scanning should:

- a. not exceed 10 degrees and view each sector at least 1 second.
- b. be in 30 degree sectors and view each sector for at least 3 seconds.
- c. use peripheral vision by scanning small sectors and utilizing off-center viewing.

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A lack of orientation with regard to the position, attitude, or movement of the aircraft in space is defined as

- a. hyperventilation.
- b. hypoxia.
- c. spatial disorientation.

39

If a pilot were to move his head too quickly when entering IMC, what is a potential consequence?

- a. The pilot may instantly regain visual reference with the horizon.
- b. The pilot may lose orientation and experience spatial disorientation.
- c. The pilot may improve their situational awareness and better navigate through the conditions.

40

Susceptibility to carbon monoxide poisoning increases as

- a. air pressure increases.
- b. altitude increases.
- c. altitude decreases.

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Aeronautical Decision Making can be defined as:

- a. Decision making process which relies on good judgment to reduce risks associated with each flight.
- b. Mental process of analyzing all information in a particular situation and making a timely decision on what action to take.
- c. Systematic approach to the mental process used by pilots to consistently determine the best course of action for a given set of circumstances.

42

What is the one common factor which affects most preventable accidents?

- a. Structural failure.
- b. Mechanical malfunction.
- c. Human error.

43

What often leads to spatial disorientation or collision with ground/obstacles when flying under Visual Flight Rules (VFR)?

- a. Getting behind the aircraft.
- b. Continual flight into instrument conditions.
- c. Duck-under syndrome.

44

What should a pilot do when recognizing a thought as hazardous?

- a. Use the IMSAFE checklist to determine if the thought is harmful.
- b. Allow the thought to develop until further signs of danger become apparent.
- c. Label it as hazardous, then state the corresponding antidote.

45

If you feel that your thoughts are leading to a hazardous situation you should:

- a. Develop this hazardous thought and follow through with modified action.
- b. Avoid developing this hazardous thought.
- c. Label that thought as hazardous, then correct that thought by stating the corresponding learned antidote.

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Pilots are more subject to spatial disorientation if

- a. visual cues are taken away, as they are in instrument meteorological conditions (IMC).
- b. they ignore the sensations of muscles and inner ear.
- c. eyes are moved often in the process of cross-checking the flight instruments.

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Why are you more susceptible to dehydration in hot summer flying conditions?

- a. Temperature decreases with altitude.
- b. Moist air at altitude helps retain the body's moisture.
- c. Dry air at altitude tends to increase the rate of water loss from the body.

48

If you are unsure whether a medication might prevent you from flying, contact:

- a. Your family doctor.
- b. An Aviation Medical Examiner.
- c. The nearest hospital.

49

What effect does haze have on the ability to see traffic or terrain features during flight?

- a. All traffic or terrain features appear to be farther away than their actual distance.
- b. Haze causes the eyes to focus at infinity.
- c. The eyes tend to overwork in haze and do not detect relative movement easily.