

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

17

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.

20

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.**

26

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.

38

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.

41

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.

47

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.